EXPLOITING ADVERTISING

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I
INTRODUCTION

It is no secret that advertising's main goal is to cause people to spend more money. And it works. One study found that "59% of new-product advertising tests showed a positive impact on sales . . . . When a particular advertising weight or copy is effective, it works relatively rapidly. Incremental sales begin to occur within six months."[1] Research shows that the effect on sales lasts—advertisements have both short and long-term positive correlations with sales.[2] As just one example, various studies have shown that children exposed to food advertising are much more likely to pick the advertised brands and are more likely to try to influence their parents' shopping.[3] In short, advertising effectively exploits us.

This article argues that this exploitation should not be a one-way street. Policymakers and researchers can use advertising to detect ways in which consumers systematically make bad decisions in specific markets. In other words, we can exploit advertising.

In an economic model that assumes consumers are perfectly rational and have perfect information, advertising is superfluous, so it does not have the potential to exploit us, and researchers cannot learn from it. If all buyers know everything about existing products and make decisions that maximize their utility, then advertising cannot influence purchasing decisions, either by providing information or using persuasion to differentiate competing products.[4]

But we do not live in that kind of a world. Economists have long conceded that most consumer markets are characterized by imperfect information.[5] More

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1. Magid M. Abraham & Leonard M. Lodish, *Getting the Most Out of Advertising and Promotion*, 68 HARV. BUS. REV. 50, 51 (1990).

2. Raj Sethuraman et al., *How Well Does Advertising Work? Generalizations from Meta-Analysis of Brand Advertising Elasticities*, 48 J. MARKETING RES. 457 (2011).

3. Mary Story & Simone French, *Food Advertising and Marketing Directed at Children and Adolescents in the US*, 1 INT'L J. BEHAV. NUTR. PHYS. ACT. 3 (2004).

4. GARY S. BECKER, ACCOUNTING FOR TASTES 41 (1996).

5. Robert Pitofsky, *Beyond Nader: Consumer Protection and the Regulation of Advertising*, 90

recently, research in the field of behavioral economics has seriously undermined the notion that people are rational actors with stable preferences.[6]

In the real world, where people often make irrational decisions based on imperfect information, advertising serves two purposes: (1) to provide factual information to help consumers in the search for products and (2) to persuade consumers to purchase products.[7] The first of these functions—providing information—is consistent with the classical economic model of human decisionmaking. Under traditional economic theory, consumers are rational actors working to maximize their own utility.[8] Advertising that provides information lowers the search costs that consumers face in finding the best products and services.[9]

Many examples of the persuasive function of advertising, and some instances of informative advertising, however, cannot be explained through classical economic theory. Instead, they are consistent with behavioral economics. Behavioral economics relaxes some of the assumptions of classical economics by acknowledging that consumers have malleable (as opposed to stable) preferences and that consumers make systematic mistakes, especially when they evaluate probabilities.[10] Notably, behavioral economics recognizes that advertising has the ability and indeed the intent to change consumers' preferences,[11] and much of advertising's attempt to persuade consumers involves changing preferences and playing on miscalculations in probabilities.[12]

If consumers make systematic, predictable mistakes in evaluating products and services, the market is not functioning efficiently. Market failure occurs under a variety of conditions, including where consumers possess imperfect

HARV. L. REV. 661, 663 (1977) ("Of course, even in theory consumers will never have perfect information. There are too many sellers offering too many products with a wide variety of characteristics changing over time, and in any event the self-serving source of the data will inevitably render the information somewhat inaccurate."); 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, 630 (1979) ("It is generally recognized, however, that information is never perfect . . . .").

6. For two recent popular descriptions of the research on behavioral economics, see generally DANIEL KAHNEMAN, THINKING: FAST AND SLOW (2011); RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS (2008).

7. *See* Richard Craswell, *Interpreting Deceptive Advertising*, 65 B.U. L. REV. 657, 661–63 (1985) (suggesting that advertising can affect buyers both by changing their factual beliefs and affecting their likes or dislikes in ways other than affecting beliefs).

8. GARY S. BECKER, THE ECONOMIC APPROACH TO HUMAN BEHAVIOR 153 (1976).

9. Lillian R. BeVier, *Competitor Suits for False Advertising under Section 43(a) of the Lanham Act: A Puzzle in the Law of Deception*, 78 VA. L. REV. 1, 8 (1992).

10. Colin F. Camerer & George Loewenstein, *Behavioral Economics: Past, Present, Future*, *in* ADVANCES IN BEHAVIORAL ECONOMICS 3, 3 (Colin F. Camerer et al. eds., 2004); Amos Tversky & Daniel Kahneman, *Judgment under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124, 1124 (1974).

11. *See* Dan Ariely et al., *"Coherent Arbitrariness": Stable Demand Curves without Stable Preferences*, 118 Q.J. ECON. 73, 103 (2003) (explaining that consumer preferences are subject to "deliberate manipulation").

12. *See generally* Kyle Bagwell, *The Economic Analysis of Advertising*, *in* 3 HANDBOOK OF INDUSTRIAL ORGANIZATION 1701, 1724 (Mark Armstrong & Rob Porter eds., 2007).

information about the attributes of products and services.[13] But markets can also fail if people make bad decisions because they mispredict their own use of a product or service, or because they do not recognize the importance of an attribute. This particular type of breakdown is called a behavioral market failure.[14]

To date, the legal literature on advertising recognizes that advertising has the potential to exploit consumers' behavioral biases.[15] Commentary also suggests that manipulative advertising is a justification for policymakers to regulate specific markets.[16] Beyond these minor steps, however, legal academic work on advertising has not made much use either theoretically or empirically of the vast amount of advertising in American life.[17]

This article makes the novel suggestion that legal researchers and policymakers should use advertising to diagnose behavioral market failures and then enact or adjust legislation to address those failures. It argues that advertisements reflect companies' beliefs about how consumers make purchasing decisions. If advertising supplies information that a rational actor would value, then there is good evidence that the market is not experiencing a behavioral market failure. If, on the other hand, advertising only serves to exploit the systematic mistakes that consumers make in the market, then it is likely that the market is not functioning efficiently. As economists Xavier Gabaix and David Laibson argue, "[o]ptimizing firms exploit myopic consumers through marketing schemes that shroud high-priced add-ons," for example.[18] By evaluating advertising in a market, we can diagnose—and perhaps correct—behavioral market failure.

Part II explains this proposal in greater detail. After briefly reviewing the literature on behavioral economics and advertising, it details the mechanics of how academics can use advertising to detect firms' attempts to exploit behavioral biases. It also makes several arguments for why using advertisements is an effective approach to uncovering market failures. Part III deals with

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13. Richard B. Stewart, *Regulation in a Liberal State: The Role of Non-Commodity Values*, 92 YALE L.J. 1537, 1573 (1983).

14. OREN BAR-GILL, SEDUCTION BY CONTRACT: LAW, ECONOMICS, AND PSYCHOLOGY IN CONSUMER MARKETS 2 (2012).

15. *See infra* Part II.A.

16. *See, e.g.*, Craswell, *supra* note 7, at 666 ("Restrictions on irrational sales techniques might seem perfectly consistent with the view of individuals as rational decisionmakers, because an irrational decision, almost by definition, could not advance the underlying preferences of a rational individual. . . . Correcting insufficiently deliberative decisions might then be seen as a neutral sort of intervention that did not require any controversial choice among conflicting values. While some value judgment is still involved in preferring conscious deliberation over other forms of decisionmaking, that preference is probably widely shared.").

17. *Cf.* Sarah C. Haan, *The "Persuasion Route" of the Law: Advertising and Legal Persuasion*, 100 COLUM. L. REV. 1281 (2000) ("Changes in both the volume and style of commercial messages in recent decades—and the implications of those changes for various aspects of law—have gone largely unexplored in legal academia.").

18. Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q.J. ECON. 505, 505 (2006).

counterarguments and limitations to this article's proposal. Part IV uses the reverse mortgage market as a case study to apply the proposed approach. Drawing on recent empirical studies of reverse mortgage advertising, part IV shows how the rational-choice theory that flows from classical economics fails to explain some features of the advertising. By exploiting the advertisements for reverse mortgages, policymakers can detect places reverse mortgage customers are likely making systematically poor decisions.

II
THE THEORY AND MECHANICS BEHIND USING ADVERTISING TO DIAGNOSE BEHAVIORAL MARKET FAILURE

Rational-choice economic theory views advertising differently from behavioral economic theory. In a rational-choice model, advertising can promote efficiency by informing the consumer about the product's attributes and prices as well as alternatives to the product.[19] It can also help consumers know their preferences and more accurately estimate the utility they can derive from a product.[20] Advertising, in this view, does not shift the demand curve for a product. Instead, it rotates the curve because it allows for personal matches between consumers and products.[21]

In contrast, behavioral economists argue that humans make systematic mistakes when evaluating products and predicting their own uses of products.[22] Advertising can take advantage of these mistakes by causing people to underestimate the cost or overestimate the value of the product. The result is that advertising causes the demand curve to shift,[23] as depicted:[24]

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19. Karl-Erik Warneryd, *Advertising and Consumer Behavior*, *in* HANDBOOK OF BEHAVIORAL ECONOMICS 94 (Benjamin Gilad & Stanley Kaish eds., 1986); *see also* JERRY KIRKPATRICK, IN DEFENSE OF ADVERTISING: ARGUMENTS FROM REASON, ETHICAL EGOISM, AND LAISSEZ-FAIRE CAPITALISM 22 (2007) ("As an institution in the division of labor and an instrument of capitalistic production, advertising communicates to many people at one time the availability and nature of need- and want-satisfying products.").

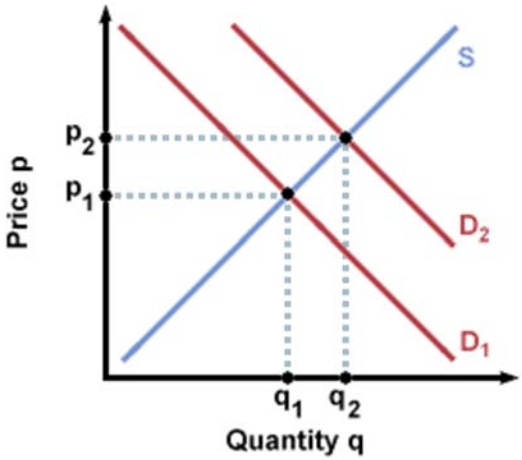
20. Warneryd, *supra* note 19, at 94.

21. Justin P. Johnson & David P. Myatt, *On the Simple Economics of Advertising, Marketing and Product Design*, 96 AM. ECON. REV. 756, 757 (2006) ("Real information . . . allows a consumer to learn of his personal match with the product's characteristics; as we show, it rotates the demand curve. Importantly, supplying real information may sometimes lower, rather than raise, sales (and profits). Our taxonomy incorporates this possibility, distinguishing it from nearly all previous work on advertising.").

22. Tversky & Kahneman, *supra* note 10, at 1124.

23. *Cf. id.* at 757 ("Promotional hype corresponds to the traditional notions of informative and persuasive advertising. It highlights the existence of the product, promotes any feature that is unambiguously valuable, or otherwise increases the willingness to pay of all consumers; it shifts the demand curve outward.").

24. *Two Approaches to Market Equilibrium*, SPARKNOTES, http://img.sparknotes.com/figures/0/039bab1e6f1ef2a65b5f4c8ddc66073a/beanie.gif [https://perma.cc/99GM-WDG2] (last visited Feb. 4, 2017) (depicting demand curve shift).



The consumers' pre-advertising demand causes them to be willing to pay P_1. But advertising increases demand, increasing the consumers' willingness to pay to P_2. In this behavioral economic model, D_1 represents the consumers' true preferences, and D_2 is the consumers' preference that advertising has distorted.[25]

This part presents the basic contours of the opportunity advertising offers to diagnose behavioral market failures and provides reasons for adopting this strategy. Subpart A briefly reviews the economic and advertising literature that relies on behavioral psychology, subpart B then outlines the mechanics. Finally, subpart C demonstrates the importance of advertising in general and its unique applicability to diagnosing behavioral market failure.

A. Limited Literature Review

Academic treatments of advertising have used behavioral economics in a variety of contexts. Economists discussing advertising use behavioral economics as a way to understand advertising better by including more realistic assumptions in the models.[26] Legal and business scholars also draw on its insights to make

25. Informative view scholars argue that the post advertising preferences are the relevant benchmark to judge true preferences. *See* Bagwell, *supra* note 12, at 1724 ("As Braithwaite argues, advertising may change tastes and distort consumption quantities. This results in a loss in consumer surplus relative to the pre-advertising benchmark. Informative view advocates counter that much advertising is informative, either directly or indirectly, and there is no taste-changing consumption distortion."). However, this demand shift is distinct from merely the shift caused by persuasive advertising because the behavioral shift exploits mistakes to shift demand. Thus, it is not susceptible to the criticism by economists who claim the post-advertising demand is the true preference.

26. *See* Bagwell, *supra* note 12, at 1825 ("First, over the past two decades, behavioral decision research in psychology has contributed to the field of behavioral economics. Work in this field is motivated by the desire to increase the psychological realism of economic models by imposing assumptions that are rooted in psychological regularity. Thus, preference functions or associated behavioral rules that have experimental support are embedded in theoretical models, in order to achieve new theoretical insights and better predictions."); Lauren G. Block, *Assessing the Impact of Antidrug Advertising on Adolescent Drug Consumption: Results From a Behavioral Economic Model*, 92 AM. J. PUB. HEALTH 1346, 1346 (2002) (using a behavioral economic model to measure the effect of

arguments against disclosures to correct advertising concerns.[27] The existing literature commonly uses behavioral economic principles to criticize specific advertisements or industries.[28]

None of these lines of scholarship, however, suggest learning about behavioral biases or behavioral market failures from the advertising itself. For example, economist Karl-Erik Warneryd suggests that behavioral science can contribute to economic research on advertising by offering an enriched conception of rationality, new perspectives on established economic debates about advertising (like its effects on pricing and demand levels), and new methods of assessing noneconomic factors in advertising that economists traditionally could not measure.[29] He does not consider the reverse, however—the ways advertising can contribute to behavioral science. Warneryd further recounts how past work suggests that behavioral science can offer insight into how the content of advertising affects consumers.[30] This article argues that we can reverse this process and learn valuable information about consumers' cognitive biases by analyzing the content of advertising.

Several important works serve as precursors to this proposal. Professors Jon Hanson and Douglas Kysar, in one of the first discussions of behavioral economics and advertising in legal articles, introduce the notion that behavioral exploitation can be endogenous.[31] Whereas prior work on behavioral law and economics had assumed that consumers' cognitive defects were fixed and uninfluenced by firms operating in the market, Hanson and Kysar suggest that firms engage in "market manipulation" by altering consumers' risk perceptions through advertising.[32] Hanson and Kysar's work opens the door to the suggestion that advertising can reveal behavioral biases because their work recognizes the

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advertising).

27. *See, e.g.*, Ho-Young Ahn et al., *Consumers' Optimism Bias and Responses to Risk Disclosures in Direct-to-Consumer (DTC) Prescription Drug Advertising: The Moderating Role of Subjective Health Literacy*, 48 J. CONSUMER AFF. 175, 178 (2014) (investigating "whether the degree of optimistic bias affected consumers' risk disclosure processing in terms of their attention to risk disclosures, their perceived importance of risk disclosures, and their intentions to seek more risk information through alternative sources."); Howard Latin, *"Good" Warnings, Bad Products, and Cognitive Limitations*, 41 UCLA L. REV. 1193, 1195 (1994) (examining "numerous information processing and decisionmaking problems that reduce the efficacy of any legally-mandated disclosure requirement.").

28. *See, e.g.*, Ahmed E. Taha, *Selling the Outlier*, 41 J. CORP. L. 459, 461 (2015) (suggesting that advertising atypical results is problematic because people mistakenly take the atypical results as representative of the product being advertised); *see also* Trenton G. Smith, *The McDonald's Equilibrium: Advertising, Empty Calories, and the Endogenous Determination of Dietary Preferences*, 23 SOC. CHOICE WELFARE 383, 402–06 (2004) (suggesting the method that humans use to process information about food and criticizing advertisements for exploiting consumers on that basis).

29. Warneryd, *supra* note 19, at 91.

30. *See id.* at 96 ("What has been said so far indicates that content analysis of advertising can at best give only part of the story. The role of the consumer himself must also be elaborated if the effects of different types of advertising are to be properly understood.").

31. Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630, 636 (1999).

32. *Id.* at 635–37.

effect that firms have in manipulating consumers' biases. Hanson and Kysar's work, however, does not detect behavioral market failure. Instead, it simply assumes such market failure always exists, or at least, it only uses examples of markets where behavioral biases are in operation.[33] Some markets conform to the rational-actor model, so a mechanism for distinguishing between rational and irrational markets is needed.[34]

Second, Ron Harris and Einat Albin extend Hanson and Kysar's work by offering evidence that market manipulation exists in consumer credit markets.[35] Harris and Albin's work moves closer to the approach this article suggests. They identify the need to distinguish "between a genuine preference to borrow more, even at the risk of default, and borrowing that results from biases and manipulation."[36] However, their goal is not to use advertising to diagnose behavioral market failure, but use it instead to justify policy changes.[37] Indeed, their main argument is that evidence of market manipulation justifies rethinking bankruptcy policy.[38] Despite this different emphasis, however, their work is extremely important to this article's diagnostic suggestion because they provide evidence that creditors gain from manipulating borrowers through advertising.[39] This evidence is an essential step in justifying the use of advertisements to detect market failure.[40]

A third important article by economists Xavier Gabaix and David Laibson demonstrates the conditions under which shrouding or hiding undesirable terms occurs to lure in myopic customers. In these conditions, firms will take no efforts to cut prices or educate customers about other companies' hidden fees.[41] This work is a prerequisite for this article's analysis because it shows why firms shroud

33. *Id.* at 637 (noting that "we will focus in this Article primarily on the field of products liability law").

34. For instance, the efficient markets hypothesis relies on the assumption that the stock market is full of informed traders with strong incentives to avoid errors. Donald C. Langevoort, *Theories, Assumptions, and Securities Regulation: Market Efficiency Revisited*, 140 U. PA. L. REV. 851, 851–52 (1992); David S. Law, *Introduction: Positive Political Theory and the Law*, 15 J. CONTEMP. LEGAL ISSUES 1, 6 (2006).

35. *See* Ron Harris & Einat Albin, *Bankruptcy Policy in Light of Manipulation in Credit Advertising*, 7 THEORETICAL INQUIRIES L. 431, 442 (2006) ("Through marketing techniques and especially advertising, lenders of credit take advantage of consumers using persuasion and manipulation.").

36. *Id.* at 448.

37. *See id.* (suggesting that the only time we need to decide if advertising is manipulating consumers is when specific "intervention is aimed at consumer decision making and not when it is aimed at the manipulating act, the credit market, or the creditors").

38. *See id.* at 431–33 ("This Article argues that when credit suppliers market and advertise their credit products, they utilize and enhance consumers' cognitive biases, particularly their optimism bias and their illusion of control . . . . This justifies a rethinking of bankruptcy policy and doctrine."); *id.* at 442 ("These insights can serve as a basis for discussion of the need for intervention and for a rethinking of bankruptcy policy."); *id.* at 447 ("We believe that this manipulation should be taken into consideration by the legal system when it addresses bankruptcy policy."); *id.* at 466 (describing the aim of the Article as "integrating the discussion of biases and manipulation into bankruptcy discourse").

39. *Id.* at 449–51.

40. *See infra* notes 59–63.

41. Gabaix & Laibson, *supra* note 18.

through marketing and why this shrouding persists even in competitive markets. This article, however, offers a low-cost, straightforward strategy for learning about shrouding through the advertisements.[42]

This article relies most on Professor Oren Bar-Gill's recent book *Seduction by Contract*. In this book, Bar-Gill uses "design features" of consumer contracts, using behavioral economics to explain "the forces responsible for these design features."[43] Bar-Gill's method is to first determine if rational-choice theory explains the existence of specific contract features.[44] If those explanations are deficient, he examines whether behavioral economic principles explain the existence of the features.[45] Bar-Gill explains that products' designs exploit behavioral biases, thus creating market failure:

> When consumers are imperfectly rational, sellers compete by designing pricing schemes that create an appearance of a lower price. The underlying problem is on the demand side of the market; imperfectly rational consumers generate biased demand. Competition forces sellers to cater to this biased demand. The result: A behavioral market failure. . . . This behavioral market failure is a direct extension of the imperfect information problem.[46]

Bar-Gill recognizes on a very general level that companies can create biases through advertising[47] and that they could correct biases or reveal true prices through advertising.[48] But his empirical strategy is focused exclusively on product design, and those following his approach mirror that narrow strategy.[49] Instead, this article argues that researchers should use advertising to perform the task of diagnosing behavioral market failure instead of relying solely on product design.

B. The Mechanics Of Diagnosing Behavioral Market Failure Through Advertisements

Diagnosing market failure through advertising preliminarily requires determining whether specific advertisements are informative or persuasive. In

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42. Gabaix and Laibson offer five empirical strategies to determine if firms in a market are shrouding aspects of the transaction, ranging from surveying customers to determining if some hidden aspects of the transaction are priced above market price. *Id.* at 528–29. My strategy is complementary to their strategies, and this part explains the reasons that I think it is a superior approach.

43. BAR-GILL, *supra* note 14, at 1.

44. *Id.* at 2.

45. *Id.* at 2–3.

46. *Id.* at 16.

47. *Id.* at 16 ("[P]erceptions and misperceptions can be endogenous. In particular, sellers can influence consumer perceptions. That's a big part of what marketing is about."); *id.* at 32 ("[S]ellers might actually prefer not to correct consumer mistakes. They might even invest in creating misperception. This manipulation of consumer perceptions and preferences is, arguably, one of the main goals of advertising.").

48. *Id.* at 165 ("Competing sellers will often have an incentive to correct consumer mistakes. This can be done, for example, through advertising."); *id.* at 91 ("[T]iming is not the only factor affecting the salience of a price or other contractual dimension. For example, advertising by issuers . . . can make a long-term price salient to consumers.").

49. Matthew A. Edwards, *The Law, Marketing and Behavioral Economics of Consumer Rebates*, 12 STAN. J.L. BUS. & FIN. 362, 375 (2007); Thomas S. Ulen, *A Behavioral View of Investor Protection*, 44 LOY. U. CHI. L.J. 1357, 1366–67 (2013).

the academic literature on advertising, scholars use content analysis to make this determination. Content analysis requires researchers to analyze the advertisement's text and visual presentation. An advertisement is considered informative if it communicates information about the price, quality, and availability of a product or service.[50] On the other hand, advertising is persuasive if, under the traditional definition, it aims to differentiate products even though the products are essentially the same. For instance, academics categorize advertisements aimed at creating brand loyalty based purely on the brand name as persuasive.[51] Some economists have argued that the distinction between informative and persuasive advertising is artificial,[52] but it has withstood the test of time and analytic scrutiny. For almost one hundred years, academic advertising research has employed, analyzed, and relied on the distinction. Thus, this article accepts it as valid for present purposes.

Whether an advertisement is informative or merely persuasive is important for determining the value of the advertisement because, in economics, the social value of advertising depends on whether the advertising informs or merely persuades.[53] Informative advertising drives down prices and matches consumers and products appropriately.[54] It is a market response to the problem of imperfect information.[55] In contrast, persuasive advertising "induces artificial product differentiation and results in concentrated markets characterized by high prices and profits."[56] If we deem an advertisement to be purely persuasive, then the likelihood that rational-choice economic models can explain its existence is much lower.

Alan Resnik and Bruce Stern established the criteria for determining whether advertising is informative.[57] Advertising is informative if it communicates: "1. Price or Value, 2. Quality, 3. Performance, 4. Components or Contents, 5. Availability, 6. Special Offers, 7. Taste, 8. Packaging or Shape, 9. Guarantees or Warrantees, 10. Safety, 11. Nutrition, 12. Independent Research, 13. Company-Sponsored Research, 14. New Ideas."[58]

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50. Alan Resnik & Bruce L. Stern, *An Analysis of Information Content in Television Advertising*, 41 J. MARKETING 50, 50–51 (1977).

51. Bagwell, *supra* note 12, at 1705–06.

52. TERENCE H. QUALTER, ADVERTISING AND DEMOCRACY IN THE MASS AGE 91 (1991).

53. Warneryd, *supra* note 19, at 90 ("While the former function may promote market transparency and can be taken to be part of the process of producing goods so they come within the reach of prospective buyers, the latter function may be seen as a disturbing factor creating monopolistic tendencies, that is, it accomplishes unilateral changes in power relations.").

54. Howard Beales, Richard Craswell & Steven C. Salop, *The Efficient Regulation of Consumer Information*, 24 J.L. & ECON. 491, 492 (1981); Schwartz & Wilde, *supra* note 5, at 645.

55. Bagwell, *supra* note 12, at 1706 ("[A]dvertising is the endogenous response that the market offers as a solution. When a firm advertises, consumer receive at lost cost additional direct (prices, location) and/or indirect (the firm is willing to spend on advertising) information.").

56. *Id.* at 1705–06.

57. Resnik & Stern, *supra* note 50, at 51.

58. *Id.*

In using advertisements to assess behavioral market failure, performing the traditional economic content analysis of searching for informative content is the first step, because only informative advertisements have the potential to have a rational-choice explanation. Persuasive advertising is by definition not based on rational arguments, so it is unlikely to be explained by a rational-choice framework.

But just because an advertisement contains information does not mean the information necessarily appeals to the concerns of a rational or myopic actor. After determining that an advertisement has informative content, one must decide whether the advertisement provides information that a rational actor would value. When presented in a straightforward manner, this information would typically be information about price, quality, and availability.[59] But it could include a wide variety of information. Many advertisements fall squarely into this category.

The advertisements that do not have a rational-choice explanation open the door to detecting behavioral market failure. Where rational-choice theory fails, behavioral economics might have powerful explanatory power for the existence of specific types of information in advertising. If the behavioral account explains the information based on systematic mistakes that consumers make in other contexts, then we are likely to uncover market failure.

All of this assumes that firms actively work to use advertising to exploit consumers' systematically poor decisionmaking when possible. If advertising is done without cognitive defects in mind, then this diagnostic approach fails before it begins. There is substantial evidence, however, that sophisticated firms are mindful of consumers' deviations from the ideal rational actor.[60] As Sarah Haan explains, "[A]dvertising researchers study human decisionmaking shortcuts . . . to create advertisements that steer consumers down particular routes to persuasion. By investing millions of dollars in follow-up quantitative research—consumer surveys, focus groups, and retail sales information, much of which is never published—advertisers hone their appeals."[61]

There are many examples of firms consciously adopting a behaviorally informed advertising strategy. A recent advertising PhD dissertation discussing behavioral economics includes a section on how managers can use consumers' biases for early product releases to increase sales.[62] Philip De Meulemeester, a

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59. *Id.*

60. Haan, *supra* note 17, at 1323. *Cf.* Oren Bar-Gill, *The Behavioral Economics of Consumer Contracts*, 92 MINN. L. REV. 749, 751, 761 (2008) ("If sellers choose to design their products in ways that respond to consumer misperception, then they must believe that misperception is systematic and robust . . . . Such product design is evidence that consumers make systematic mistakes (or, at least, that sellers believe that consumers are making systematic mistakes).").

61. Haan, *supra* note 17, at 1282.

62. *See* ANNE LINE HOLCK OMLAND, THE FUTURE BIAS IN MARKETING: A LONGITUDINAL APPROACH 57 (June 2011) (unpublished Master Thesis, The Norwegian School of Economics and Business Administration) http://brage.bibsys.no/xmlui/bitstream/handle/11250/169049/Omland%202011.pdf?sequence=1&isAllowed=y [https://perma.cc/UDT7-G4QP] (performing a variety of survey studies analyzing how people construe products over time through a behavioral lens and concluding that the

Planner at Saatchi & Saatchi London, has an entire presentation about behavioral economics and how to use advertising to capture the benefits of these advances in economics.[63] Tronvig Group, a marketing company that serves museums and non-profits among other clients, suggests that clients develop marketing strategies specifically to exploit consumers' optimism bias.[64] In one personal example, after I wrote an article analyzing the dangers of behavioral biases in the rent-to-own industry several years ago,[65] a rent-to-own trade publication published an article describing the findings so that rent-to-own companies could use those exact findings to increase sales.[66] In light of the evidence from the advertising industry, it appears firms are both aware of consumers' biases and willing to exploit them.

C. Justifying Using Advertisements

Bar-Gill suggests using product design to uncover behavioral biases,[67] and Gabaix and Laibson offer five empirical strategies for uncovering instances of shrouding.[68] So why turn to advertising to diagnose behavioral market failure? The amount of money that companies spend on advertising alone demonstrates its economic importance. In 2003, General Motors spent $3.43 billion, Proctor and Gamble spent $3.32 billion, and Pfizer spent $2.84 billion on advertising.[69] In 2005, advertising represented 2.2% of the United States' gross domestic product—$1,200 per citizen and a $272 billion total cost.[70]

Beyond the enormous cost that firms expend on advertising, it is also the most obvious place to find firms exploiting irrational thinking. As Edward L. Glaeser observed, "We should expect to see a proliferation of misleading signals and other cues when incorrect beliefs are complements to buying sellers' commodities or supporting politicians. The advertising industry is the most important economic example of these systematic attempts to mislead . . . ."[71] The central

"research has implications that are relevant for managers as it shows that consumer attitudes can be affected by advertising a product as available sometime in the future, as opposed to it being immediately available. The results from the study suggest that temporal framing can be used successfully as a marketing tool for improving consumers' evaluations of products and to generate interest in the product.").

63. Philip De Meulemeester, *Behavioural Economics in Advertising Planning*, IN (Jan. 14, 2015), http://www.slideshare.net/philipdemeulemeester/behavioural-economics-in [https://perma.cc/L45V-7NSC].

64. James Heaton, *Optimism Bias in Marketing*, TRONVIG GROUP, http://www.tronviggroup.com/optimism-bias-in-marketing/ [https://perma.cc/HP9D-RWPE] (last visited Feb. 4, 2017).

65. Jim Hawkins, *Renting the Good Life*, 49 WM. & MARY L. REV. 2041 (2008).

66. Ed Winn, *Rent-to-Own and Behavioral Economics*, PROGRESSIVE RENTALS 31, 34 (Oct.–Nov. 2007) (suggesting that "some of the insights concerning individuals' economic behavior may influence how dealers position and run their businesses").

67. Bar-Gill, *supra* note 60, at 752.

68. Gabaix & Laibson, *supra* note 18, at 528.

69. Bagwell, *supra* note 12, at 1704.

70. Benedetto Molinari & Francesco Turino, *Advertising and Aggregate Consumption: A Bayesian DSGE Assessment* 2 (2015).

71. Edward L. Glaeser, *Psychology and the Market*, 94 AMER. ECON. REV. PAPERS &

purpose of advertising is to affect the demand curve either through persuasion or information, so it serves as a primary vehicle for companies to change consumers' perception of the value of a product or service.[72]

As a practical matter, using advertisements to detect market failure is also a lower cost alternative to other methods. Advertisements are designed to be seen, so accessing them is relatively easy, especially compared to surveying customers or other research methods.[73] The tools of content analysis are well-established and easy to teach to people[74] (in contrast to, for instance, performing econometric analysis[75]), so the method is available to researchers and policymakers with a variety of expertise levels.

III
POTENTIAL LIMITATIONS AND CRITICISMS

There are of course limitations and criticisms to this proposed strategy. An entire body of literature argues against behavioral economics in general and against the very existence of systematic consumer mistakes.[76] This article leaves those broader criticisms aside and focuses instead on anticipated criticisms to this specific proposal.

One potential criticism is that advertising does not actually cause consumption of negative products. Seounmi Youn et al. argue, for instance, that "despite emerging efforts to censor advertising for controversial products, there is often little compelling evidence to suggest that advertising is a major factor in causing any of these problem behaviors or that a ban on advertising would result in reduced consumption."[77] Though this criticism may be a persuasive argument against regulating advertising, it is not a reason to reject using advertisements to diagnose behavioral market failures. Even if advertisements do not actually cause consumers to purchase products, firms must think the advertisements work because they spend vast amounts of money on them. Firms' beliefs about behavioral biases can be used as the proxy for market failure, so it does not matter if advertisements are ineffective as long as research can demonstrate that firms' advertising choices are intentional.

A second response to using advertising to diagnose market failures may be an argument commonly used by economists responding to critics of persuasive advertising: Persuasive advertising is actually communicating useful information

PROCEEDINGS 408, 410 (2004).

72. *Cf.* BAR-GILL, *supra* note 14, at 9 ("Demand is now a function of perceived benefits and prices, rather than of actual benefits and prices . . . .").

73. Gabaix & Laibson, *supra* note 18.

74. For an example of how researchers trained people to use Resnik and Stern's paradigm, see Resnik & Stern, *supra* note 50.

75. Gabaix & Laibson, *supra* note 18.

76. As one recent example, see generally Alan Schwartz, *Regulating for Rationality*, 67 STAN. L. REV. 1373 (2015).

77. Seounmi Youn et al., *Restricting Gambling Advertising and the Third-Person Effect*, 17 PSYCHOL. & MARKETING 633, 635 (2000).

to consumers even if it does not do so on its face. For instance, economist Kyle Bagwell argues that "even if [an advertisement for a good] contains no direct information, the fact that the good is advertised may suggest that the seller is efficient and thus that the good is aggressively priced."[78] Furthermore, persuasive advertising can remind consumers of prior positive experiences with a product even without communicating information.[79]

Like the first criticism, however, this one is not necessarily a criticism of this article's approach. Even if persuasive advertising can be useful, and even if advertisements aimed at exploiting behavioral biases nonetheless communicate useful information, it does not follow that firms are intending to communicate that information. If the real goal of persuasive advertising is to prove that the company is efficient and therefore offers lower prices, for instance, we would expect the company to take a more direct approach and simply advertise this information directly. The motivation to produce advertisements aimed at consumers' behavioral mistakes is not to communicate information about the firm's efficiency. Instead, it is to try to manipulate the market. So we can still learn about the behavioral biases present in the market through advertisements, even if those advertisements serve a useful function, as defenders of persuasive advertising maintain they do.

A third compelling critique may be that even if advertising does aim at exploiting behavioral biases, that would not prove that enough consumers in a given market suffer from the bias to affect the market as a whole. Consumers are heterogeneous, so showing that advertising is aimed at a behavioral bias does not show that the cognitive defect affects a substantial number of consumers in the market.[80]

The foundation of this potential criticism is true—some customers in every market are sophisticated. For the most part, however, policymakers have little to worry about with those consumers because they will use the deals and advertisements aimed at myopic customers to their own advantage.[81] Thus, even if advertising enables detection of a market failure that only affects part of the market, the naïve market participants are the ones that policies generally aim to protect, so the project seems worthwhile despite this drawback because it will help those consumers at whom policies are often aimed. Second, the fact that some consumers are sophisticated and some are naïve actually shows another

78. Bagwell, *supra* note 12, at 1719; *see also* Warneryd, *supra* note 19, at 111 ("Even if considerable weakness in advertising information exists—despite advertising self-regulation and government regulation—the consumer can usually get some information about product quality from advertising.").

79. Bagwell, *supra* note 12, at 1718–19.

80. *See* Thomas A. Durkin et al., *An Assessment of Behavioral Law and Economics Contentions and What We Know Empirically About Credit Card Use by Consumers*, 22 SUP. CT. ECON. REV. 9 (2014) ("[E]ven if these characteristics describe some consumers sometimes, the number is quantitatively small to the point that their impact on the overall functioning of credit markets is unimportant. If so, then standard economic analysis is not undermined as a descriptor of the fundamentals of consumer behavior with respect to credit, even after taking into account the findings and contentions of the psychologists and the survey researchers and marketers concerning variations in consumer behavior.").

81. Gabiax & Laibson, *supra* note 18, at 509–10.

reason that advertising is a good resource for understanding market failure. In studying advertisements, we can measure the prevalence of different types of advertisements. If irrational consumers make up only a very small portion of the market, we would expect to see very little advertising aimed at them and the majority of the advertising aimed at rational actors. The prevalence of types advertising therefore provides a proxy for what firms consider to be the makeup of the market and the prevalence of the behavioral market failure.[82]

IV

EXPLOITING REVERSE MORTGAGE ADVERTISING

To this point in the article, the discussion of the theory and mechanics of how to diagnose behavioral market failure through advertising has been in the abstract. This part applies the proposal using new empirical data about reverse mortgage advertisements. This case study illustrates the proposal's operation in a concrete context and helps to evaluate its usefulness as a research strategy.

A. The Reverse Mortgage Market

In a reverse mortgage, lenders send money to borrowers, reversing the payment stream of a traditional mortgage.[83] In exchange for the loan, borrowers grant liens on their homes.[84] Because the lender is the one making payments, the arrangement does not require that borrowers have any income.[85]

Currently, only 2–3% of eligible homeowners have reverse mortgages,[86] and reverse mortgages comprise only 1% of the traditional mortgage market.[87] Yet,

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82. *See, e.g.*, Jim Hawkins, *Using Advertisements to Diagnose Behavioral Market Failure in the Payday Lending Market*, 51 WAKE FOREST L. REV. 57 (2016) (using payday advertising as an example of this analysis).

83. Debra Pogrund Stark et. al., *Complex Decision-Making and Cognitive Aging Call for Enhanced Protection of Seniors Contemplating Reverse Mortgages*, 46 ARIZ. ST. L.J. 299, 302 (2014); *see also* Paul V. Black, *Reverse Mortgages and the Current Financial Crisis*, 8 NAELA J. 87, 95 (2012) ("In a reverse mortgage transaction, however, the stream of payments is reversed; that is, the lender is paying the borrower. Thus, the outstanding total balance owed by the borrower will not shrink, but rather grow over time.").

84. Black, *supra* note 83, at 102.

85. *Id.* at 92; Ben Jakubowicz, *What the Hecm Is A Reverse Mortgage: The Importance of the Home Equity Conversion Mortgage in an Aging America*, 54 U. LOUISVILLE L. REV. 183, 187 (2016) ("Because reverse mortgage borrowers are not required to make payments to lenders, traditional debt-to-income analysis does not play a determinative role in the HECM guidelines.").

86. CONSUMER FIN. PROT. BUREAU, REPORT TO CONGRESS ON REVERSE MORTGAGES 14 (2012), http://files.consumerfinance.gov/a/assets/documents/201206_cfpb_Reverse_Mortgage_Report.pdf [https://perma.cc/D4C7-RP36] [hereinafter CFPB 2012 REPORT].

87. Jennifer Juergens, *Reverse Mortgage Complexity Is Negatively Impacting Older Americans*, 6 HOUS. L. REV. 209, 210 (2016).

the number of seniors is increasing,[88] and the number of people using this form of credit is rising astronomically.[89]

There are multiple types of reverse mortgage products,[90] but Home Equity Conversion Mortgages (HECMs) are by far the most common type of reverse mortgage.[91] For lenders, HECMs are federally insured by the U.S. Department of Housing and Urban Development and its division, the Federal Housing Administration,[92] and the vast majority are securitized as Ginnie Mae mortgage backed securities.[93] In contrast to the secondary market, the structure of the market for reverse mortgage originators is diffuse, with many small companies originating most loans.[94]

Because most reverse mortgages are HECMs, which are governed by the National Housing Act,[95] they all share a set of required characteristics: only people over 62 qualify for the loan,[96] the loan amounts are limited to $417,000 (or $625,000 in some areas),[97] there are no limitations for the most part on the senior's use of the proceeds,[98] and no repayment is required until the borrower

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88. CFPB 2012 REPORT, *supra* note 86, at 41–42 ("Census figures project that the number of people over age 60 will reach 75 million by 2020, and 92 million by 2030. Given homeownership rates among older homeowners, there are likely to be nearly 40 million eligible homeowner households headed by someone 62 or older by 2030.").

89. *See* Jakubowicz, *supra* note 85, at 184 ("The number of reverse mortgages originated in 2008 was twenty-two times higher than in 2009. While reverse mortgages are growing in popularity, they have yet to gain a large share of the market. As of 2012, less than 3% of eligible homeowners have a reverse mortgage. However, the impending influx of baby boomers reaching retirement age, the appealing terms of reverse mortgages, and today's restrictive conventional mortgage lending environment suggest that reverse mortgages will play a prominent role in the financial landscape over the next twenty years."); Stark et al., *supra* note 83, at 299 ("Many seniors have expressed interest in this unique type of financing, and this number has grown exponentially in recent years, as there were ten times the number of seniors entering into reverse mortgages in 2007 as there were in 2001.").

90. *See* Wendy Little Schieke, *The Advisability of Reverse Mortgage to Pay for Care Needs*, 47 MD. B.J., no. 3, June 2014, at 26 ("There are three types of reverse mortgages: the Home Equity Conversion Mortgage ('HECM'), the proprietary reverse mortgage [i.e., reverse mortgages for amounts higher than permitted for HECMs], and the single-purpose reverse mortgage [e.g., a reverse mortgage granted through a state or local program to use for paying real estate taxes].").

91. Black, *supra* note 83, at 92 ("Qualification criteria for reverse mortgages insured by the Federal Housing Authority and offered by the Department of Housing and Urban Development, which currently make up 98 percent of the reverse mortgage marketplace, and are known as Home Equity Conversion Mortgages (HECMs), are relatively straightforward."); Stark et al., *supra* note 83, at 301 ("The most common type of reverse mortgage loan is the Home Equity Conversion Mortgage (HECM), insured by the Federal Housing Administration (FHA) (constituting over 90% of all reverse mortgage loans originated in the U.S. market).").

92. Black, *supra* note 83, at 92.

93. Dan Latona, *Reversing Course: Strengthening Consumer Protections for Reverse Mortgages*, 23 ELDER L.J. 417, 428 (2016).

94. Jakubowicz, *supra* note 85, at 194–95.

95. 12 U.S.C. § 1715z-20 (2012).

96. *Id.*

97. *Id.*; *see* Stark et al., *supra* note 83, at 303–04 ("Prior to closing, the house is appraised to determine its value and to make sure that it meets FHA minimum property standards.").

98. 12 U.S.C. § 1715z-20 (2013).

dies, moves, sells, or fails to comply with specific terms of the loan.[99] The specific loan obligations include things like maintaining the home in good repair, having mortgage insurance, paying taxes, not moving out of the home for more than twelve continuous months, and not allowing other liens on the property.[100] Borrowers can elect for the lender to pay out HECMs as a lump-sum upfront, to make fixed payments over time, or to create a line of credit that the borrower can access.[101]

Academics and policymakers have suggested several reasons that reverse mortgages are economically efficient choices for some seniors. First, reverse mortgages allow borrowers to use the equity that they have built in their home over a long period of time without selling the home.[102] Often the most valuable asset a senior has is the senior's home, which represents years of monthly payments to a forward mortgage. After paying off that traditional mortgage, the money is illiquid without a loan. Wong and Evans explain:

> This loan structure was specifically designed to fit the needs of a very specific borrower: an elderly homeowner who (1) had few liquid assets, (2) was committed to aging in his or her current home, and (3) did not intend to pass the home to a beneficiary as part of his or her estate. For these borrowers, this type of loan allows them to access the equity in their homes for the purpose of supplementing their income while living there without having to worry about a repayment schedule.[103]

Access to the equity in a senior's home is particularly valuable in the case of reverse mortgages because there are no restrictions on the use of the money, so seniors can allocate the cash to best meet their needs.[104] Additionally, the cash is

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99. *Id.*; If a borrower does not live in the house for twelve months in a row, the borrower has "moved" under most reverse mortgage agreements. Black, *supra* note 83, at 102.

100. Black, *supra* note 83, at 102; Latona, *supra* note 93, at 425–26.

101. Black, *supra* note 83, at 95.

102. CFPB 2012 Report, *supra* note 86, at 5; *see also* U.S. GOV'T ACCOUNTABILITY OFF., REVERSE MORTGAGES: PRODUCT COMPLEXITY AND CONSUMER PROTECTION ISSUES UNDERSCORE NEED FOR IMPROVED CONTROLS OVER COUNSELING FOR BORROWERS 3, 7 (June 2009), http://www.gao.gov/new.items/d09606.pdf [https://perma.cc/W6E5-H95A] [hereinafter GAO REPORT]. ("Congress established the HECM program as a way to alleviate economic hardship caused by the increasing costs of health, housing, and subsistence needs at a time in life when income is reduced. Consistent with this goal, HECMs allow senior homeowners to convert their home equity into cash advances, while maintaining ownership of their homes. HECM borrowers have indicated that the mortgages have helped them to meet their financial needs.").

103. Elliot Wong & Ingrid Evans, *Protecting Borrowers from the Pitfalls of Reverse Mortgages*, 24 EXPERIENCE, no. 2, 20, 20 (Summer 2014).

104. *See* GAO REPORT, *supra* note 102, at 7 ("HECMs can provide senior homeowners with multiple types of benefits, including the flexibility to use the money received . . . . Because there are no restrictions on how the money received from a HECM can be used, borrowers can choose to use the funds for necessities, such as housing, medication, or groceries, or for other purposes, such as vacations."); Black, *supra* note 83, at 97 ("So what makes reverse mortgages an attractive product in spite of their high cost? First, there are no restrictions on how homeowners can spend their reverse mortgage proceeds, enabling reverse mortgage holders to pay for health care items not covered by Medicare and Medicaid, such as eyeglasses, dentures, additional in-home care, or essential overhead expenses such as home repairs, utility bills, and homeowner's insurance. Some homeowners even use the proceeds of their reverse mortgage to pay off their current "forward mortgage," leaving them the remainder as spendable income.").

tax-free even when it serves as a surrogate source of income because it is a loan based on the home's equity, not income.[105]

Second, taking out reverse mortgages is an economically efficient choice for seniors who do not have a steady income and would have difficulty qualifying for other types of loans.[106] Traditional loans require monthly payments, so borrowers generally have to prove that they can make the payments.[107] Since there are no monthly payments with reverse mortgages, borrowers without steady incomes can still qualify.

Third, reverse mortgages are non-recourse loans. Most collateralized loans, even mortgages, obligate the borrower to repay the debt if the sale of the collateral does not generate a sufficient amount.[108] Reverse mortgages, however, never result in judgements or debt-collection calls for paying loan balances that remain after the lender forecloses on the home.[109] Protection from personal liability is valuable because it acts as a backstop to protect borrowers from financial distress.[110]

Understanding these reasons that commentators posit as economically rational reasons for obtaining a reverse mortgage is important. If the reverse mortgage market is experiencing behavioral market failure, then the approach advocated in this article would predict that reverse mortgage advertising would appeal to features of reverse mortgages *other than* these rational reasons.

Despite the fact that no regular payments are required, reverse mortgages do entail risks and costs for borrowers, and these risks and costs are larger than they appear at first glance. One major risk is that borrowers will default on their loan obligations, obligating them to repay the loan or lose the house.[111] In fact, the default rate is over five times higher for reverse mortgages than for traditional mortgages—almost ten percent.[112] Seniors can default if they run out of money to pay taxes or mortgage insurance premiums or to repair their homes, and they

105. Leslie R. Ramos, *Chapter 202: California Provides Further Protection for Seniors Contemplating Reverse Mortgage Loans*, 38 MCGEORGE L. REV. 45, 51 (2007); *see also* Black, *supra* note 83, at 97 ("[T]here is no tax upon the proceeds because the borrowers are (at least initially) 'borrowing' against their home equity.").

106. *See* Ramos, *supra* note 105, at 51; Stark et al., *supra* note 83, at 317–18.

107. 15 U.S.C. § 1639(h) (2015) ("A creditor shall not engage in a pattern or practice of extending credit to consumers under mortgages referred to in section 1602(aa) 1 of this title based on the consumers' collateral without regard to the consumers' repayment ability, including the consumers' current and expected income, current obligations, and employment.").

108. *E.g.*, U.C.C. § 9-615 (2010); *see generally* Kristen Barnes, *"Pennies on the Dollar": Reallocating Risk and Deficiency Judgment Liability*, 66 S.C. L. REV. 243 (2014) (describing the risk of deficiency judgments that most homeowners face).

109. CFPB 2012 REPORT, *supra* note 86, at 111.

110. *See generally* Jim Hawkins, *Regulating on the Fringe: Reexamining the Link Between Fringe Banking and Financial Distress*, 86 IND. L.J. 1361 (2011) (explaining how fringe banking products are non-recourse structurally insulates borrowers from financial distress).

111. After borrowers trigger one of the bases for repayment being due, they (or their estates) have six months to repay the debt or the lender must foreclose on the home. Latona, *supra* note 93, at 425–26.

112. Jakubowicz, *supra* note 85, at 184, 194.

face greater risks than people who are still in the workforce.[113] In 2010, for instance, the Department of Housing and Urban Development found that "servicers were holding approximately 13,000 loans in default due to nonpayment of property charges."[114] Seniors' health also increases the likelihood of default because the loans require borrowers to reside in the home and not, for instance, an assisted living facility for an extended period of time. And borrowers must be healthy enough to ensure that the home remains in good repair.[115] Facing foreclosure is a serious risk because seniors can suffer emotionally and physically by losing their home, and they may have financial trouble moving.[116]

A second significant disadvantage of reverse mortgages is their high cost. Reverse mortgages are substantially more expensive than traditional mortgages.[117] Borrowers must pay mortgage insurance premiums, an origination fee, servicing fees, and relatively high interest charges.[118] If the borrower has the ability to pursue other options, reverse mortgages are extremely likely to be an inefficient choice because of the high cost.[119] These high fees threaten to devour all of the equity that the borrower has in the home.[120] Because the home's equity is likely the largest source of wealth for any given senior, the loss of that equity is a serious concern.[121]

Finally, borrowers who take out reverse mortgages can risk losing government benefits that depend on net assets or monthly income, often without

113. Annie E. Nelson, *Reverse Mortgages: Changes Brought About by the Housing and Economic Recovery Act*, 13 N.C. BANKING INST. 337, 359 (2009).

114. Latona, *supra* note 93, at 446.

115. *See* Stark et al., *supra* note 83, at 328 ("It also needs to be practical for the homeowner to manage the home, because the major obligations for entering into this type of loan include making necessary repairs, paying for insurance, and keeping up with payment of property taxes.").

116. Juergens, *supra* note 87, at 218.

117. Jakubowicz, *supra* note 85, at 192.

118. GAO REPORT, *supra* note 102, at 10–11; *see also* Jakubowicz, *supra* note 85, at 192 ("The costs of reverse mortgages are much higher than those of conventional mortgages. For example, assume a seventy-five year old borrower with a home valued at $250,000 takes a lump-sum disbursement of $67,500 at an interest rate of 7%. Origination fees, third-party closing costs like title and appraisal fees, and 2.5% up-front MIP total over $12,000. After two years, the total financing charges including interest, service fees, and annual MIP of 1.25%, the loan amount exceeds $25,000! Moreover, the finance charges exceed $50,000 after only five years. Although these costs are rolled into the loan and not repaid to the lender until a triggering event occurs, the reality is that reduced costs and MIPs would enable the senior to take larger disbursements later in life. By contrast, the closing costs on a conventional mortgage are closer to $2,500.87.").

119. Deanne Loonin & Elizabeth Renuart, *The Life and Debt Cycle: The Growing Debt Burdens of Older Consumers and Related Policy Recommendations*, 44 HARV. J. ON LEGIS. 167, 198 (2007) ("[A]lthough reverse mortgages are a solution for some seniors facing debts they would otherwise be unable to pay, reverse mortgages can be much more costly than other types of loans because of their higher up-front fees.").

120. Wong & Evans, *supra* note 103, at 21 ("A home is the average consumer's single largest asset. Using a reverse mortgage to borrow against the accumulated value of one's home is costly and may even totally deplete the home's equity.").

121. Tara Twomey, *Crossing Paths: The Intersection of Reverse Mortgages and Bankruptcy*, 89 AM. BANKR. L.J. 363, 368 (2015) ("For many seniors, their home is their most valuable asset. Equity built up over several decades can represent a significant amount of wealth.").

even considering that risk.[122] Juergens explains how accepting monthly payments may limit seniors' access to some types of financial assistance for which they would otherwise qualify:

> Because these kinds of assistance programs are based on older Americans' financial position, those who take loan proceeds that exceed the designated monthly limit might jeopardize their eligibility for assistance. For instance, borrowers with liquid resources [of] more than $2,000 for individuals and $3,000 for couples lose eligibility for SSI.[123]

On the other hand, other commentary offers the exact opposite advice, arguing that borrowers should be careful taking out the money as a lump sum: "[U]nless homeowners choose to receive their reverse mortgage proceeds as a lump-sum advance, there is no effect on their Social Security or Medicare benefits."[124] Regardless of exactly how borrowers may lose government benefits, it is a risk that borrowers should assess.

B. Using Advertising To Detect Behavioral Biases In The Reverse Mortgage Market

With that background in mind, the question arises: Is the reverse mortgage market experiencing behavioral market failure? The reverse mortgage market is fertile ground for behavioral economic analysis because the transaction is complicated and involves predictions about the future. Articles about reverse mortgages frequently claim that the product is complex.[125] Seniors must make a variety of decisions about how their loan will work, and each decision adds a layer of complexity.[126] One level of complexity involves the different ways that borrowers can opt to obtain cash—immediate lump sums versus set payments over time, for instance.[127] Adding to the complexity, borrowers can also opt for

122. The GAO in 2009 criticized existing counseling programs for failing to inform borrowers about the potential loss of benefits. GAO REPORT, *supra* note 102, at 35–37.

123. Juergens, *supra* note 87, at 218.

124. Black, *supra* note 83, at 97.

125. *See* CFPB 2012 REPORT, *supra* note 86, at 7 ("Reverse mortgages are complex products and difficult for consumers to understand."); GAO REPORT, *supra* note 102, at 46 ("[T]he product is relatively complex and costly and the population it serves is vulnerable."); Ramos, *supra* note 105, at 51 ("The complexity of reverse mortgages can lead to fraud or misunderstanding for borrowers."); *see generally* Juergens, *supra* note 87 (using the word complex twenty eight times); Latona, *supra* note 93 (using the word complex thirty six times); Stark et al., *supra* note 83 (using the word complicated twenty one times).

126. Jakubowicz, *supra* note 85, at 188 ("The HECM product is highly customizable, and if used properly, can be custom-tailored to provide senior homeowners with benefits not available through traditional lending products. Conversely, the myriad of options can be very confusing and may result in the borrower obtaining a very costly and ineffective loan."); Stark et al., *supra* note 83, at 307 ("[T]he presence of so many choices adds to the cognitive complexity of the decision making that seniors must undertake and may cause many seniors to be unable to process all of the information they need to when deciding whether the offered reverse mortgage is suitable for them.").

127. Latona, *supra* note 93, at 427 ("[B]orrowers who choose the adjustable-rate product can choose from any of the six different options for receiving their loan proceeds. Those disbursement options are: 1) line of credit; 2) fixed monthly disbursement for a fixed number of years; 3) fixed monthly disbursement for as long as the borrower lives in the home; 4) a combination of options one and two; 5) a combination of options one and three; and 6) lump sum . . . .").

adjustable interest rates or fixed rates.[128] The complexity of adjustable rate loans is a common source of criticism from behavioral economists in different credit products.[129] Also, borrowers who care about the equity they will retain in the home after the loan ends—a common concern—face complex decisions because predicting future equity requires accurate predictions about the "borrower decisions, interest rates, and home values . . . ."[130]

Scholars have identified a wide variety of potential biases in the reverse mortgage market.[131] One limitation to the existing literature's approach to assessing consumers' biases, however, is that there is little empirical proof on the topic. The empirical studies of reverse mortgage advertising only address whether the advertisements are actually deceptive under legal standards, not whether they frame the transaction in a way that exploits poor decisionmaking.[132] In addition, Stark et al.'s excellent work on behavioral biases and reverse mortgages points to "potential" biases that might operate in the market.[133] The problem with merely identifying potential biases in a market is that sometimes consumers in specific markets behave differently than behavioral economic theory suggests they will.[134] Thus, to ensure that laws solve real problems, it is important to have some empirical justification for regulatory intervention. This

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128. CFPB 2012 REPORT, *supra* note 86, at 100*; see also* Stark et al., *supra* note 83, at 307 ("It also should be noted that while lenders are supposed to offer both fixed and adjustable rate loans under HECMs, in practice the loans accrue interest at a floating rate because the interest rates for a fixed rate loan (unless the entire amount of the loan is funded immediately) are offered at a significantly higher rate than the initial floating rate. If interest rates over the term of the loan rise significantly, this will cause the HECM to be even more costly than anticipated and reduce the amount of money the senior can draw on the loan, causing the senior to receive less than he or she expected and might need. This, then, is another risky feature of HECM loans versus a conventional loan, where it is not uncommon for that loan to accrue interest at a fixed rate, especially when, as now, interest rates are at historic lows.").

129. Danielle Kie Hart, *Contract Law Now-Reality Meets Legal Fictions*, 41 U. BALT. L. REV. 1, 50–51 (2011).

130. GAO REPORT, *supra* note 102, at 11–12.

131. The most comprehensive research suggesting biases in this market is Stark et al., *supra* note 83.

132. For instance, the FTC has searched for deceptive advertisements but not for advertisements aimed at suboptimal decisionmaking. *See* GAO REPORT, *supra* note 102, at 15 ("FTC officials stated that they have conducted systematic searches of all forms of media, including Internet, print, and television advertisements for potential violations of the FTC Act.").

133. *See, e.g.*, Stark et al., *supra* note 83, at 303 ("[S]eniors *may* not adequately take these continuing home expenses into account when they decide to enter into a reverse mortgage.") (emphasis added); *id.* at 335 (suggesting sales people "might" exploit behavioral biases); *id.* at 309 ("Another problem with financing these costs is that the senior *might* not notice how high these costs are when they are not coming out of her pocket directly at closing.") (emphasis added); *id.* at 343 ("One *potentially* protective phenomenon is risk aversion (under which consumers fear losses such as losing their homes more than they appreciate gains such as the money that they could receive from taking out a reverse mortgage). This phenomenon could *potentially* be protective if it were to cause seniors to avoid reverse mortgages on the grounds that they are too risky when the reverse mortgage would in fact not best meet the senior's needs.") (emphasis added).

134. As just one example, there are many people who claim that auto title loan borrowers are overly optimistic about their ability to repay the loans, but empirical evidence that tests the claim directly suggests otherwise. *See* Kathryn Fritzdixon et. al., *Dude, Where's My Car Title?: The Law, Behavior, and Economics of Title Lending Markets*, 2014 U. ILL. L. REV. 1013, 1042 ("People are relatively good at predicting their ability to repay, although there is room for improvement.").

subpart applies the general approach of this article to the reverse mortgage market to offer concrete evidence that consumers are making irrational decisions when evaluating this financial product.

Advertising matters to reverse mortgage firms. In recent years, advertising for reverse mortgages has increased, using celebrities to draw in borrowers.[135] Some commentary predicts that marketing will increase use of these loans.[136] Numerous sources claim these advertisements are misleading[137] or may exploit poor decisionmaking.[138]

Two government studies of reverse mortgage advertisements provide a foundation for assessing whether we can learn about behavioral biases in this market by exploiting advertising—a 2009 study by the Government Accountability Office (GAO) and a 2015 study by the Consumer Financial Protection Bureau (CFPB). The GAO reviewed marketing material (including Internet, mail, and television advertising) from the HECM lenders that originated more than 1,000 loans in 2008.[139] The CFPB's study reviewed ninety-seven advertisements from the Internet, television, radio, print, and mail from five major U.S. cities that appeared in March 2013 to March 2014.[140] The CFPB also spoke with seniors about their impressions of the advertisements.[141]

The GAO and CFPB both identified some of the same problems in the advertisements that they reviewed, but they also each found some issues that the

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135. Juergens, *supra* note 87 at 218–19; Little Schieke, *supra* note 90, at 26; Nelson, *supra* note 113, at 361.

136. Lior Jacob Strahilevitz, *The Right to Destroy*, 114 YALE L.J. 781, 842 (2005). One CLE even suggests that the government advertise reverse mortgages to inform consumers and stimulate borrowing. Katharine G. Abraham & Benjamin H. Harris, *Better Financial Security in Retirement? Realizing the Promise of Longevity Annuities* (2015) ("If nothing else, these factors suggest a role for public policy to help bridge the information gap and better inform consumers about the potential benefits of longevity annuities as part of a more comprehensive financial plan. One constructive step could be a set of government guidelines aimed at helping older Americans make sound financial decisions. This could be accomplished by the issuance of a financial security graphic, similar to the MyPlate graphic for nutrition (formerly the food pyramid) . . . . No financial product is for everyone, but an effective graphic could point individuals towards potentially useful financial and insurance products, including longevity annuities as well as reverse mortgages . . . .").

137. *See* Nelson, *supra* note 113, at 361 ("These commercials add to the misunderstanding of the product."); Ramos, *supra* note 105, at 46 ("Some lenders use misleading and illegitimate means to defraud or confuse potential borrowers, including failing to completely inform customers of all their options and implying that certain products, such as annuities, are necessary, hoping to take advantage of the "gold mine in equity locked up" in the homes of seniors."); Wong & Evans, *supra* note 103, at 21–22 (asserting that reverse mortgage advertisements use "illicit tactics"). *See also* Andrew C. Helman, *Putting Equity Back in Reverse Mortgages: How State Legislatures Can Bring Fairness to Home Equity Conversion Mortgages*, 12 MARQ. ELDER'S ADVISOR 415, 443 ("Lastly, misleading advertising also plagues the industry.").

138. Stark et al., *supra* note 83, at 335–36.

139. GAO REPORT *supra* note 102, at 3.

140. CONSUMER FIN. PROTECTION BUREAU, OFF. FOR OLDER AMERICANS, A CLOSER LOOK AT REVERSE MORTGAGE ADVERTISEMENTS AND CONSUMER RISKS 5, 12 (June 2015), http://files.consumerfinance.gov/f/201506_cfpb_a-closer-look-at-reverse-mortgage-advertising.pdf [https://perma.cc/3J3R-DYPB] [hereafter CFPB 2015 REPORT].

141. *Id.* at 12–13.

other study did not find. Combining the two reports, the two agencies found the following types of potentially misleading claims in the advertising they reviewed:

- Advertising that stated the borrower would "[n]ever owe more than the value of your home;"[142]
- Advertising that implied a reverse mortgage is a government benefit;[143]
- Advertising that stated the loan will pay income for life;[144]
- Advertising that stated the borrower can "[n]ever lose your home;"[145]
- Advertising that suggested a government affiliation[146] or stated that the loans were backed by the government;[147]Advertising that stated reverse mortgages were only available in specific locations or for specific periods of time;[148]
- Advertising suggesting young people should take out reverse mortgages;[149] and
- Advertising that contained fine print.[150]

Under traditional content analysis,[151] all of these advertising claims are informative. They all communicate attributes of the product such as price ("never owe more than your home"), quality ("government-sponsored"), contents ("income for life"), or availability (specific locations/time periods). But, just because the advertisements inform does not mean they inform rational consumers. The following assesses whether rational-choice economic theory or behavioral economic theory offers a better explanation for the existence of each of these types of advertising.[152]

142. GAO REPORT, *supra* note 102, at 21.

143. *Id.*; *see also* CFPB 2015 REPORT, *supra* note 140, at 6 ("After viewing ads, some consumers did not understand that reverse mortgage proceeds would have to be repaid in the future . . . . After viewing television advertisements that do not highlight repayment terms, many consumers expressed surprise when shown a printed ad stating interest rates.").

144. GAO REPORT, *supra* note 102, at 22.

145. *Id.*; CFPB 2015 REPORT, *supra* note 140, at 7.

146. GAO REPORT, *supra* note 102, at 22.

147. CFPB 2015 REPORT, *supra* note 140, at 8.

148. GAO REPORT, *supra* note 102, at 22.

149. CFPB 2015 REPORT, *supra* note 140, at 9 ("Consumers said reverse mortgage advertisements promoted living a good lifestyle while being young enough to enjoy it, or to travel while they still have their health. Several said the advertisements suggested that consumers should get a reverse mortgage while they are young and healthy enough to enjoy the money. Images of active, youthful retirees were a common feature among ads shown to consumers. Ads typically depicted seniors riding bicycles, playing golf, or enjoying similar leisure activities.").

150. CFPB 2015 REPORT, *supra* note 140, at 7 ("About half of the advertisements collected by the CFPB included some type of 'fine print.' Most consumers we spoke with, however, could not read the fine print in printed ads, and none of the consumers we talked to could read the fine print that was used in television ads. Ads that included information about borrower requirements typically did so in fine print. Fine print generally addressed tax and insurance requirements, property maintenance and residency requirements, repayment terms, and other important details about the loans.").

151. *See supra* notes 57–58.

152. I do not discuss the explicitly false advertising that the reverse mortgage product is only available for a limited time or in a limited location. This advertising, while informative, is pure fraud. I am less

1. Advertising About Price

Several types of advertising described in the reports are about the cost of reverse mortgages to seniors. Advertising that implies that the consumer will never owe more than the value of the house communicates an upper price limit for the loan, and advertising that implies that a reverse mortgage is a government benefit communicates that the government, not the consumer, is paying. The final type of advertising—fine print—is another place that pricing information appeared. The fine print sometimes contained explicit interest rate and fee information.[153]

Price information is relevant to a rational borrower.[154] It is particularly relevant for rational reverse-mortgage customers because there is price variation within the market—not all lenders charge the maximum allowable rates.[155] People who are interested in reverse mortgages but do not ultimately get one report that the high costs were what drove them away,[156] so advertising aimed at discussing prices makes sense under traditional economic models.

But, does rational-choice theory explain why direct statements about price appear in the fine print? Does it clarify why misleading information about price—implications about the government providing the loans as a benefit or the borrower never owing more than the home—appear in the main part of the advertisement?[157] Most rational borrowers highly value accurate pricing information, so it is hard to articulate why they would want it hidden in the fine print.

So, if a rational borrower would want price information upfront and accessible, why do advertisers put it in fine print? Behavioral economics provides a persuasive explanation for this advertising feature—limited attention. Research suggests that in complicated transactions people can only focus on a small number of the transaction's attributes.[158] Again, the limitation is especially acute for older individuals because, research demonstrates, they have more trouble concentrating,[159] have weaker short-term and working memory,[160] and frequently are financially illiterate.[161] In the context of reverse mortgages, borrowers might

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interested in actual fraud because it appears trade organizations police the industry for fraudulent marketing. GAO REPORT, *supra* note 102, at 20 n.21.

153. CFPB 2015 REPORT, *supra* note 140, at 6–7.

154. *See* Oren Bar-Gill, *Bundling and Consumer Misperception*, 73 U. CHI. L. REV. 33, 54 (2006) (noting the price is usually the most important term of any transaction).

155. Nelson, *supra* note 113, at 350.

156. *Id.* at 349.

157. CFPB 2015 REPORT, *supra* note 140, at 6.

158. Fritzdixon et al., *supra* note 134, at 1047–49.

159. *See* Stark et al., *supra* note 83, at 329–30 ("[T]he ability to concentrate declines by the time a person has reached their mid-50s. By the time seniors are faced with the decision on whether to take out a reverse mortgage, these abilities are already seriously compromised.").

160. *Id.* at 330.

161. *See* Loonin & Renuart, *supra* note 119, at 170 ("In addition, all consumers find themselves forced to navigate an increasingly complex marketplace that requires choosing quickly and often between complicated goods and services. The effects of such market complexities may be especially troublesome

focus on one aspect of the transaction while neglecting some other important feature.

The fact that firms shroud cost information by making other product attributes more prominent is evidence that firms expect borrowers to underestimate the cost of a reverse mortgage. Reverse mortgages are expensive, sometimes costing eighteen percent of the loan amount without even factoring in interest.[162] But, borrowers never actually pay money to the mortgage company until the loan is due, so they "may have trouble understanding the extent of accruing servicing, interest, insurance, and financed upfront costs . . . . Research has found that consumers often focus on short-term costs and underestimate long-term costs."[163] The advertising for reverse mortgages that focuses on abstract statements of cost instead of actual costs provides evidence that the market is failing. Seniors, hampered by limited attention, underestimate the cost of the credit, preventing them from making rational decisions about the credit's value.[164]

2. Advertising About Obtaining Income For Life

Advertisements that promote reverse mortgages as providing income for life, if true,[165] appear to tap directly into one of the main economic benefits of reverse mortgages—obtaining access to the equity in a home.[166] Commentary offers strong justifications for seniors entering into reverse mortgages to access their cash, so it appears that rational borrowers would seek this information from lenders. Because there is a rational choice explanation for this type of advertising, there is no need to offer an alternative behavioral explanation, and we should assume these advertisements (assuming they are true) do not indicate behavioral market failure.

3. Advertising About The Risk Of Foreclosure

Some advertisements downplayed the risk of borrowers losing their homes through a reverse mortgage. Rational reverse-mortgage borrowers, many of whom explicitly express a preference for staying in their home,[167] would want to know whether they could lose their home to foreclosure and how likely that is, and firms might advertise this information to compete with other forms of credit that borrowers might consider, such as selling their homes or home equity

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with respect to seniors because of pervasive financial illiteracy among older Americans.").

162. Stark et al., *supra* note 83, at 318.

163. CFPB 2012 REPORT, *supra* note 86, at 111; *see also* Stark et al., *supra* note 83, at 309 ("Another problem with financing these costs is that the senior might not notice how high these costs are when they are not coming out of her pocket directly at closing.").

164. Bar-Gill, *supra* note 154, at 1402.

165. The CFPB suggests reasons these claims are spurious. CFPB 2015 REPORT, *supra* note 140, at 10.

166. *See supra* notes 101–105.

167. CFPB 2012 REPORT, *supra* note 86, at 47 ("According to a 2010 industry poll, 81 percent of reverse mortgage borrowers say they plan to remain in their current home for the rest of their life.").

loans.[168] Both the GAO and CFPB report that the advertisements along these lines stated that seniors could never lose their homes.[169] This is not accurate because there are multiple ways that a borrower can default on a reverse mortgage, thereby losing the home.[170] So, though a rational borrower would want to know the likelihood of defaulting, the information contained in reverse mortgage advertisements does not communicate that to borrowers.

So why do reverse mortgage firms tell potential borrowers that they will never lose their homes? One of the most documented biases in the behavioral economics literature, the optimism bias, offers a compelling reason. At the time they take out a reverse mortgage, borrowers might be overly optimistic about the likelihood that they will become too sick to live in the house or that they will be unable to pay for home insurance.[171] Seniors might be particularly likely to underestimate the likelihood of default because, research suggests, "as people get older they have a tendency to focus more and more on positive information and to focus less on negative information."[172]

In addition to exploiting over-optimism, advertisements also play off borrowers' limited attention by putting details about the exact ways that a borrower can lose a home in fine print. Latona points to the examples of two advertisements, one involving "the Fonz," Henry Winkler, and one involving former Senator Fred Thompson. In both, the celebrity tells borrowers about the benefits of reverse mortgages while the fine print informs borrowers that they will still be responsible for paying insurance, taxes, and maintenance of the home.[173]

These advertisements that capitalize on over-optimism and limited attention offer evidence that firms believe that borrowers in the reverse mortgage market are acting irrationally when choosing to enter into a reverse mortgage. This suggests that borrowers underestimate the risk of default and thereby misjudge the value of the overall transaction, causing behavioral market failure.

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168. Little Schieke, *supra* note 90, at 33.

169. CFPB 2015 REPORT, *supra* note 140, at 7; GAO REPORT, *supra* note 102, at 22.

170. *See* Stark et al., *supra* note 83, at 318 ("A second major disadvantage to a senior entering into a reverse mortgage is the surprising fact that they will be in default and will have to repay the debt if they fail to live in the home for more than twelve months, even if this failure is due to the fact that the senior becomes sick or injured and needs care outside of the home.").

171. Jeurgens, *supra* note 87, at 217 ("The fact that people in general and older Americans specifically are overly optimistic may explain why reverse mortgages are attractive despite their high cost and risks. Consumers underestimate the likelihood of a negative outcomes from a reverse mortgage, so they fail to assess the true costs of the transaction."); Stark et al, *supra* note 83, at 342 (suggesting the applicability of the optimism bias in this market and noting that some research finds that optimism increases with age). There is evidence of over-optimism in other credit markets. *E.g.*, Oren Bar-Gill, *Seduction by Plastic*, 98 NW. U.L. REV. 1373, 1401 (2004) (explaining that consumers' underestimation of forgetfulness causes them to incur exorbitant credit card fees).

172. Stark et al., *supra* note 83, at 332.

173. Latona, *supra* note 93, at 418.

4. Advertising About Government Involvement

The federal government has criticized reverse mortgage companies for confusing borrowers about the affiliation between lenders and the government.[174] Advertisements in the GAO and CFPB studies highlighted that the government backed reverse mortgages. Apart from the potential misrepresentation of suggesting an actual affiliation between the lender and the government, is there a rational-choice explanation for firms advertising that the government will pay back the lender if the borrower defaults on the loan?

At face value, it seems strange that borrowers would care if the lender is protected by the government guaranteeing the loan's repayment. Indeed, lenders are the primary beneficiaries of government involvement because such involvement ensures that lenders are repaid if the sale of the home does not generate sufficient proceeds to pay off the loan.[175]

But, even the CFPB argues that the government's involvement "provides some important protections for borrowers."[176] The benefit to borrowers cited in the reverse mortgage literature is that the government will make loan disbursements if the lender for some reason is unable to do so.[177] This benefit might provide a rational-choice explanation for these advertisements. But as far as research has documented, there has never been a case where the lender did not disburse reverse mortgage funds.[178] Thus, the borrower's risk of nonpayment is miniscule, so it is hard to believe that rational borrowers are concerned about this risk.

Behavioral economics has a compelling explanation for the emphasis on the government's involvement—the halo effect. The halo effect occurs when people view one product or characteristic more favorably because they associate it with something they like.[179] For instance, research shows that attractive people pay less than unattractive people in civil cases.[180] In other consumer credit transactions, research suggests that borrowers do not shop around for the best lender when a trusted institution, a halo, backs a specific lender.[181]

The people the CFPB interviewed appeared to view reverse mortgage lenders more favorably because of the government's halo. One person thought the lender

174. *See* Jason W. McElroy & Jeffrey P. Blackwood, *Deceptive Advertising Practices Remain Hot Target for CFPB*, 68 CONSUMER FIN. L.Q. REP. 432 (2014) (describing the CFPB enforcement actions against reverse mortgage companies).

175. Jakubowicz, *supra* note 85, at 188.

176. CFPB 2015 REPORT, *supra* note 140, at 11.

177. GAO REPORT, *supra* note 102, at 9; Jakubowicz, *supra* note 85, at 193; Latona, *supra* note 93, at 424–25; Nelson, *supra* note 113, at 341; Stark et al., *supra* note 83, at 318.

178. *See* CFPB 2012 REPORT, *supra* note 86, at 231 n.541 ("CFPB research produced no documented cases of a lender failing to meet payment obligations.").

179. For the work creating the term, see Edward L. Thorndike, *A Constant Error in Psychological Ratings*, 4 J. APPLIED PSYCHOL. 25 (1920).

180. Joel D. Lieberman, *Head over the Heart or Heart over the Head? Cognitive Experiential Self-Theory and Extralegal Heuristics in Juror Decision Making*, 32 J. APPLIED SOC. PSYCHOL. 2526, 2538–39 (2002).

181. MICHAEL WROBLEWSKI, HELPING FAMILIES FINANCE COLLEGE 9 (2007).

would not take advantage of her because the government was involved, while another said the government's participation in the transaction "meant that reverse mortgage companies were more likely to look after consumer interests."[182]

The fact that firm advertising emphasizes the government's involvement in the market is evidence that firms believe that borrowers are making suboptimal decisions in this market. While it is plausible that rational borrowers are concerned about lenders not complying with payment obligations, it is much more likely that firms are exploiting the halo effect and drawing in borrowers who have an unduly favorable view of the lender.

5. Advertising About The Appropriate Age To Take Out a Reverse Mortgage

Advertisements that depict younger borrowers parallel the trend of younger borrowers taking out loans. From 1990 to around 2010, the average age of a reverse mortgage borrower dropped by almost 5 years,[183] and the number of borrowers ages 62–69 more than doubled.[184] Advertisements that have pictures of younger seniors suggest that reverse mortgage companies are targeting those customers because social psychologists suggest that we tend to buy things we see other people "like us" buying.[185]

The reverse mortgage product, however, is less beneficial and more dangerous for younger seniors. Older seniors benefit the most from reverse mortgages because the law sets the limit on how much a borrower can borrow based on age, and the older a borrower is, the more money they can receive.[186] Older seniors also face lower risks from taking out a reverse mortgage because they are less likely to "outlive their resources or face unexpected expenses" than younger borrowers.[187] Younger seniors receive drastically lower payments in reverse mortgages because the lender must carry the loan for so much longer into the future without payments. In light of the factors suggesting that older seniors are better candidates for reverse mortgages, if advertisements are supposed to help consumers, these advertisements aimed at younger borrowers are puzzling from a rational-choice perspective.

One explanation for this advertising push is that firms believe borrowers act irrationally in this market because they have present-biased preferences. Individuals with present-biased preferences "show a particular desire for

182. CFPB 2015 REPORT, *supra* note 140, at 9.

183. Twomey, *supra* note 121, at 386 n.146.

184. CFPB 2015 REPORT, *supra* note 140, at 10.

185. Jim Hawkins, *Selling Art: An Empirical Assessment of Advertising on Fertility Clinics' Websites*, 88 IND. L.J. 1147, 1169 (2013) (citing ROBERT B. CIALDINI, INFLUENCE: THE PSYCHOLOGY OF PERSUASION 140 (2007)).

186. Nelson, *supra* note 113, at 343 n.44 ("The borrower is not able to borrow up to the entire value of the home. HUD limits all payments to a 'principal limit,' that is based on a calculation using a table of 'principal limit factors' such as the borrower's age and the interest rate.").

187. CFPB 2015 REPORT, *supra* note 140, at 10; *see also* CFPB 2012 REPORT, *supra* note 86, at 8 ("By tapping their home equity early, these borrowers may find themselves without the financial resources to finance a future move—whether due to health or other reasons.").

immediate consumption" and exhibit "dynamically inconsistent time preferences."[188] Relatively younger borrowers who opt for smaller loan amounts immediately as opposed to higher loan amounts in the future reflect present-biased preferences.[189] Similarly, reverse mortgage borrowers who opt to receive all of their loan proceeds in a lump sum at the start of the transaction exhibit present-biased preferences.[190] In the current market, these younger borrowers are especially likely to take their proceeds as a lump sum upfront,[191] and the fact that firms are targeting these exact customers suggests behavioral market failure. Absent a rational-choice explanation for why younger borrowers would pursue reverse mortgages, the behavioral story has more explanatory power, and it appears that at least some borrowers are making irrational decisions.

V
CONCLUSION

In the reverse mortgage market, it appears that firms believe consumers are making irrational decisions because they advertise information that would appeal only to irrational borrowers and not to rational ones. Policymakers can use advertisements to create new regulations that address the biases identified through advertisements. For instance, because there is evidence that borrowers neglect the overall cost of the transaction because of limited-attention problems, regulators can require that all advertisements display interest rate and fee information prominently, instead of in fine print, anytime reverse mortgage companies advertise these loans. Similarly, policymakers can combat over-optimism about the likelihood of foreclosure by developing disclosures that communicate the probability that a borrower will default and face foreclosure.

But, these suggestions are merely preliminary thoughts on optimal regulations. More importantly, they are just one illustration of a new approach for detecting behavioral market failure. Beyond considering specific regulations for reverse mortgages, the approach demonstrated here could have wide application in a variety of contexts, especially for credit products or other products that involve complex decisions or preferences over time. By using existing empirical studies of advertising or through creating new empirical work that studies advertising in specific markets, researchers can detect consumers'

188. Stephan Meier & Charles Sprenger, *Present-biased Preferences and Credit Card Borrowing*, 2 AM. ECON. J.: APPLIED ECON. 193, 195 (2010).

189. Latona, *supra* note 93, at 427 ("Prospective borrowers are more likely to be in their sixties at origination than in the past, have more substantial existing mortgage debt than older borrowers, and take more cash up front.").

190. Stark et al., *supra* note 83, at 306 ("Under the line of credit plan, the borrower will receive the mortgage proceeds in unscheduled payments or in installments, at times and in amounts of the borrower's choosing, until the line of credit is exhausted. This is the most popular plan chosen by borrowers, with 75% of borrowers selecting this option, perhaps because under it the borrower would have immediate access to a large sum rather than continuing small payments across time.").

191. CFPB 2012 REPORT, *supra* note 86, at 8.

behavioral biases across numerous markets and suggest regulatory interventions to help these markets operate more efficiently.[192]

192. For another example of this method applied to payday lending advertisements, see Hawkins, *supra* note 82.