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Abstract

We conduct a series of field experiments to evaluate the quality of advice provided by life insurance agents in India. Agents overwhelmingly recommend unsuitable, strictly dominated products, which provide high commissions to the agent. Agents cater to the beliefs of uninformed consumers, even when those beliefs are wrong. We also find that agents appear to focus on maximizing the amount of premiums (and therefore commissions) that customers pay, as opposed to focusing on how much insurance coverage customers need. A natural experiment requiring disclosure of commissions for a specific product results in agents recommending alternative products with high commissions but no disclosure requirement. A follow-up agent survey sheds light on the extent to which poor advice reflects both the commission incentives as well as agents' limited product knowledge.

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1 Introduction

The recent financial crisis has spurred many countries to dramatically change how many consumer financial products are distributed, such as the UK ban on commission payments to independent financial advisors, and the 2012 ban on entry loads in the Indian mutual fund industry.[1] Proponents of the bans argue that sales agents give poor advice, misleading consumers. Opponents argue that market discipline and reputational concerns will motivate agents to provide financial advice and customer education.

This paper reports on four closely related field experiments in which we hired and trained individuals to visit life insurance agents, express interest in life insurance policies, and seek product recommendations. We focused on two common life insurance products: whole life and term life. We chose these two products because, in the Indian context, consumers are much better off purchasing a term versus whole life policy. In section II, we detail how large this violation of the law of one price can be. The combination of a savings account and a term insurance policy can provide over six times as much value as a whole life insurance policy.

One major result, which we find consistently through all of our experiments, is that agents primarily recommend whole insurance products even when our auditors' scripts were designed such that term insurance should be the optimal recommendation. In particular, the overwhelming majority of recommendations are whole. While we find that advice responds to various customer and regulatory features, none of our treatments strongly change the fact that overall advice in this market appears to be of very low quality.

Our experimental interventions study how advice responds to features of the customer interaction. In our first experiment, we test whether agent advice is responsive to customers' needs, as well as whether it responds to customers' (potentially erroneous) beliefs about products. We

[1] For a greater discussion of regulation, see Anagol, Cole, and Sarkar (2014).

randomly assign whether term or whole life insurance is most suitable for consumers, as well as whether they express an initial preference for term or whole life. We therefore have cases in which the customer has an initial preference for term insurance, though whole insurance is the more suitable product, and vice versa (whole insurance could be a suitable product for an individual who has difficulty committing to saving). If an agent's only role is to match clients to suitable products, only suitability information should affect agent recommendations. In fact, we find that agents respond to both consumers' self-reported (and incorrect) beliefs in addition to consumers' needs. Interestingly, this is true even when the commission on the more suitable product is higher, and hence the agent has a strong incentive to de-bias the customer.[2] We view this result as important because it suggests that agents tend to cater to, rather than de-bias customers, even in instances when sale of the suitable product would yield greater commissions.[3]

One surprising finding is that agents choose to respond to different customer beliefs and needs by recommending a *combination* of term insurance and whole insurance, as opposed to simply recommending the most suitable product. While it is difficult to rationalize combining term and whole insurance policies, based on a suitability criterion, such behavior does make sense if the agent is attempting to maximize commissions; an agent can obtain a high commission off of the whole product, and then satisfy the customers' desire for risk coverage by adding additional term coverage. We find that the premium amounts recommended are similar regardless of whether the agent's recommendation includes a term policy; however, the amounts of insurance coverage are much larger when term insurance is recommended. While it is difficult to objectively measure the "right" amount of coverage for any given consumer, the finding that agents focus on premium amounts, and hence recommend dramatically different levels of coverage for very similar

[2] While prices are set by the retailers, agents may engage in "kickbacks" i.e. splitting commissions with clients and reducing the effective product prices. We do see evidence of this occurring throughout the experiments, and kickbacks occur in both monetary and commodity (such as gold) forms.

[3] This result matches the Mullainathan et. al. (2012) finding that financial advisors in the U.S. cater to pre-existing client biases.

individuals, is difficult to reconcile with the view that agents focus on the best product for consumers rather than their own commissions.

In our second experiment, we study whether agents respond differently to customers who report having previously received advice from another agent. We find that customers who report having visited another agent receive better advice, when their previous advice was bad. While the experiment does not allow us to pin down the mechanism—perhaps agents perceiving more competition are more likely to give advice, or perhaps agents simply decide to try a different tactic—we think this result provides motivation for future work on sales agent behavior.

In our third experiment, we test how disclosure regulation affects the quality of advice provided by life insurance agents. Mandating that agents disclose commissions has been a popular policy response to perceived mis-selling, as it makes potential conflicts of interest salient to consumers.[4] We take advantage of a natural experiment: as of July 1, 2010, the Indian insurance regulator mandated that insurance agents disclose the commissions they earned on equity-linked life insurance products. Focusing on audits occurring just before or just after the implementation of the regulation, we find agents are much less likely to propose the unit-linked insurance policy to clients, and instead recommend whole life policies which have higher, but opaque, commissions.

Overall, our results suggest there is an agency problem between life insurance customers and the agents who provide them advice. There are two potentially important drivers of this agency problem. The first, which the literature has primarily focused on, is that high commissions cause agents to recommend unsuitable products even when the agent knows what the suitable recommendation should be; in our context this interpretation would suggest that agents know that term insurance dominates whole, but choose to recommend high commission, less suitable, whole products. Another potentially important driver is that the high commissions system selects agents

[4] For example, New York state passed Regulation 194 in 2010, which requires life insurance agents to disclose commissions to prospective life insurance buyers (NY Office of General Counsel, 2010).

who hold the mistaken belief that whole insurance products are indeed the most suitable (i.e. agents do not know that they are giving bad advice); agents with mistaken beliefs succeed in this market because those with correct beliefs may recommend lower commission products, and find it harder to stay in business. This second interpretation is particularly interesting because it suggests that competition amongst life insurance agents will not cause the most knowledgeable agents to have success in the market. Our audits alone cannot distinguish these two interpretations because we only observe the advice agents give, as opposed to their true beliefs about the quality of various products.

To make some progress on this issue we conducted a follow-up survey with 32 life insurance agents. We find that all surveyed agents own whole insurance policies *themselves*, which is consistent with the idea that the commissions structure may be selecting agents with mistaken beliefs. We also find some evidence that these agents recommend term insurance more when asked a hypothetical question about recommending products to a family member for whom term was suitable. Overall, these results suggest that commissions may be distorting advice both through the incentives they provide to knowledgeable agents, as well as to the pressure they put on the system to select agents who believe unsuitable products are in fact optimal. Understanding how commissions affect both of these channels is a particularly interesting avenue for future theoretical and empirical research.

We focus on the market for life insurance in India for the following reasons. First, given the complexity of life insurance, consumers are likely to require help in making purchasing decisions. Second, popular press accounts suggest that the market may not function well: life insurance agents in India engage in unethical business practices, promising unrealistic returns or suggesting only high commission products.[5] Third, the industry is large, with approximately 44 billion dollars of

[5] See for example "LIC agents promise 200% return on '0-investment' plan," The Economic Times of India, Feb. 22, 2008 (Sengupta, 2008).

premiums collected in the 2007-2008 financial year, 2.7 million insurance sales agents who collected approximately 3.73 billion dollars in commissions in 2007-2008, and a total of 105 million insurance customers. Approximately 20 percent of household savings in India is invested in whole life insurance plans (IRDA, 2010). Fourth, agent behavior is extremely important in this market, as approximately 90 percent of insurance purchasers buy through agents.

Our paper joins a recent literature that uses audit studies to collect data on advice, and compares this advice to independent assessments of good advice. Oehler and Kohlert (2009) sent 90 mystery shoppers portraying varying levels of financial sophistication to German banks, documenting that those with greater sophistication received better advice. Synovate (2011) conducted 1,200 mystery-shopping visits to financial advisors in 27 EU member states and argued that unsuitable advice was provided 60% of the time, though the authors of the study viewed a recommendation to invest in equities or mutual funds as unsuitable because it involves too much risk.[6] Mullainathan et al. (2012) conduct an audit study in the United States, examining the quality of portfolio allocation guidance provided by advisors. They find that agents recommend higher-risk portfolios for wealthier individuals, are biased towards active management, and do not do a good job of undoing customer biases, instead catering to client preferences.[7,8]

Relative to the existing literature, our paper makes the following contributions. Our focus on life insurance demonstrates the presence of a severe failure of the advice market beyond the

[6] Such a definition of suitability is not consistent with standard theoretical predictions that an individual should hold diversified portfolios, including equities.

[7] Theoretical models of advice predict that competition can, in some instances, remove the incentives of agents to provide poor advice. Bolton et al. (2007) found that competition between financial product intermediaries could lead to good advice in equilibrium, even if consumers did not know which products were suitable for them and brokers had incentives to mislead consumers. Gabaix and Laibson (2006), Carlin (2009), and Inderst and Ottaviani (2012a,b), present models where bad advice can persist even in competitive equilibrium as long as the extra profits earned from providing bad advice to unsophisticated consumers outweighs gains in market share from providing good advice.

[8] A second, non-audit, strand of work tests for agency problems between financial agents and customers by comparing broker versus non-broker intermediated transactions. Levitt and Syverson (2008) show that real estate agents do a better job selling their own homes than their clients' homes. Bergstresser et al. (2009) find that mutual funds sold through brokers underperform those sold through other distribution channels, even before accounting for substantially higher fees (both management fees and entry/exit fees). Del Guercio et al. (2010) argue that sellers of mutual fund products in the US that charge high fees may provide intangible financial services which investors value.

single setting of portfolio management. This is important for several reasons. We show agents recommend products that are strictly dominated (e.g., a violation of the law of one price), something more difficult to show in equity markets, where there is still debate about the merits of certain decisions (e.g., actively managed funds or momentum strategies). Our large sample size allows us to test a number of important comparative statics, and our follow-up studies help shed light on the extent to which poor advice reflects agents' misunderstanding of product features. Finally, because insurance products last twenty or more years, the setting we study may be largely free of incentives to establish a long-term relationship. Life insurance agents may view the relationship with a customer as essentially over after the product has been sold, whereas mutual fund agents may seek to maximize the lifetime value of the agent/client relationship.

Our results on the impact of disclosure norms are complementary to a few recent empirical papers as well.[9] Bertrand and Morse (2011) find that disclosing the aggregate level of fees associated with payday borrowing reduces use of the product. Choi et al. (2009) find that providing cheat sheets that clearly disclose fees causes Harvard staff and Wharton MBA experimental subjects to slightly improve allocations across index funds, but overall find that disclosure has only minor impacts. In laboratory settings, Cain et al. (2005) finds that disclosure leads to worse advice, perhaps because advisors feel that disclosure gives them a license to exaggerate claims, and De Meza et al. (2010) finds limited behavioral changes among insurance purchasers in response to disclosure. Our research also informs an emerging legal literature, including Judge (2012) and Schwarcz (2007), on how to structure commissions disclosure provisions.

2 Life Insurance Policies in India

In this section, we provide a summary of our comparison of term vs. whole products. A detailed analysis is presented in the Online Appendix in Table A1. We find that the insurance

[9] For a general review of the literature on disclosure across health, education and financial markets see Dranove and Jin (2010).

offerings from the largest insurance company in India violate the law of one price, as long as an individual has access to a means of saving.

The value of whole policies is limited for several reasons: while the coverage amount increases each year due to “bonuses,” these bonuses are not compounded. Hence, instead of purchasing expensive whole insurance policies, customers may purchase cheaper term policies, save the difference, and earn substantially higher benefits. We evaluate the whole vs. “term plus savings” strategy for both the Life Insurance Corporation of India (LIC), the government owned firm with the largest market share, and ICICI Pru, a private insurer. The numbers are given in Table A1. For a 35 year old male, the "term plus savings" bundle with LIC products yields 42% greater benefits if a customer dies at age 35; if a customer lives to age 80, the "term plus savings" product yields 21 percent greater payout. For the ICICI Pru 10-year endowment policy, a "term plus savings" strategy yields between ten times as much coverage (for an early death), to 23 percent more cash (if the customer survives ten years).

But even this comparison understates the difference in value for at least two reasons. First, the replicating portfolio builds up a substantial savings balance, which is more liquid than a life insurance policy. Clients seeking to redeem investment-type policies early may forfeit more than 70 percent of the accrued value. Second, if an individual does not pay each premium promptly, the insurance company has the right to declare the policy lapsed. Some estimates suggest lapse rates are as high as 6 percent of outstanding policies lapse in a given year (Kumar, 2009). Gottlieb and Smetters (2014) attribute lapses of American policies with high net present value to unanticipated liquidity shocks. Lapse within three years yields no redemption value to the customer; lapses after three years promise a recovery value of only 30 percent of premiums paid (less the first year’s premiums). Halan et al. (2013) estimate Indian consumers lost over $28 billion to lapsed life insurance products from 2004-2012.

Thus, for an equivalent investment, the buyer receives anywhere from 40 percent to twenty times as much benefit if she purchases term plus savings, relative to an endowment or whole policy. A benchmark might be the mutual fund industry: $1 invested in a minimal fee S&P500 fund might earn 8 percent per annum, and therefore be worth $69 after 55 years. If an investor invested $1 in a "high cost" mutual fund that charged 2 percent in fees, the value after 55 years would be $25, or about one third as large. The cost of making a poor life-insurance decision is thus similar in magnitude to selecting the highest-cost index funds.

When making similar comparisons for products offered by other companies, or for individuals of different ages, we consistently find that term plus savings outperforms savings-linked life insurance plans. This finding appears to hold in the U.S. as well: Carney and Graham (1998) examine term vs. whole policies in the US and also conclude that "buying term and investing the difference" would have better payoffs than buying whole insurance in most instances. A more recent, non-academic, comparison in Blyskal (2015) argues that, for most consumers, term insurance is appropriate; one exception is in the case where whole insurance purchasers can follow through and continue to make payments for twenty years or more. In this case whole may be appropriate for some consumers because of certain tax treatments.[10,11]

We note that if there is truly "rational" demand for investment-linked products, it is somewhat surprising that an insurance company has not entered this market and won a substantial amount of business by offering a better whole insurance product (i.e., by paying compounded bonuses, charging lower premiums, or both). In fact, a few policies offer compounded bonuses, but these do not seem to have won substantial market share.

Companies regard insurance commission rates as proprietary information and do not, to our

[10] Taken together, we see these papers as supporting (albeit not unequivocally) the hypothesis that whole policies may indeed appeal to behavioral biases.

[11] A large fraction of whole insurance purchasers do not follow through with payments; forty percent stop making payments within the first ten years of opening the policy (Gottlieb and Smetters, 2014).

knowledge, voluntarily disclose them. We were able to obtain insurance commission information from LIC, the largest company in our sample, as well as a leading private insurance company (LIC agents comprise 64% of our sample). LIC agents receive 35% of the premium collected in the first year of a policy as commission. For the policies described in the appendix (a whole policy providing 2,500,000 face value of coverage, and a term policy providing Rs. 3,500,000), the total payment to an agent the first year she sold the policies would be drastically different: selling the whole policy would yield over three times as much compensation to the agent (Rs. 24,500) as would selling term (Rs. 6,700).[12]

One explanation for this may be that competition really occurs along the margin of selling effort, as opposed to the quality of the product. In this case, the products that have the highest sales incentives will sell, and an insurance firm will have an incentive to pay the highest commissions on the highest profit products. We present a formal model along these lines that is consistent with our empirical results in the Appendix to this paper. Work on shrouded product attributes (Gabaix and Laibson, 2006 and Heidhues et al., 2012) may also provide part of the explanation. These models show that dominated products can exist in competitive equilibrium. In the life insurance case, firms may not have an incentive to educate consumers that term plus savings is better than whole insurance, as consumers may move savings from insurance firms to other financial service providers. This loss may outweigh the benefits of greater term insurances sales. Nonetheless, because our experimental design does not allow us to distinguish between these models, we leave further exploration of this issue to future work.

2.1 Whole Life Insurance as a Commitment Device

One potential advantage of the whole life policy over term plus savings is that the whole life policy contains commitment features that some consumers value (Ashraf et al., 2006); whole

[12] For both whole and term policies, agents receive 35% of the premium paid in the first year, 7.5% of the premium paid in the second and third year, and 5% of the premium paid in subsequent years.

policies return no or significantly reduced benefits if customers allow them to lapse. However, it is not clear that the commitment feature is sufficient to make these desirable policies. First, the relative price of savings in whole insurance is very high, with a simple calibration in the online appendix suggesting a sophisticated hyperbolic consumer would have to have a high immediate discount rate ($\beta = .4$), relative to the range of values typically cited in the literature (e.g., Angeletos et al. (2001) use $\beta = .7$).

Moreover, demand for commitment products appears to be low: Ashraf et al. (2006) find that only 25 percent of those offered a commitment savings device take it up; Royer et al. (2012) and Gine et al. (2010) report even lower take-up rates for related commitment contracts and savings products. Other savings products in the Indian context offer similar commitment device properties but substantially higher returns, such as fixed deposit accounts in banks, or the universally available public provident fund (which makes funds available only after 7 years). Finally, there is no reason that a financial services provider could not offer commitment savings accounts without an insurance component; yet we know of no such product offered by any financial services provider in India.

To minimize the possibility that agents believe consumers require a commitment savings product, for any shopping visit in which we regard term insurance as the more appropriate product, the mystery shopper made clear to the insurance agent that she or he was seeking risk coverage at a low cost, rather than a savings vehicle. We also note that our measures of agents' response to the needs, beliefs, and competition of customers do not rely on whole being a dominated product for everyone, only that our experimental treatments move the agent's beliefs about this particular auditor's beliefs and needs related to insurance.[13]

3 Theoretical Framework and Predictions

[13] The disclosure natural experiment results do not rely on whole being a dominated product as in that analysis we are comparing recommendations to the same consumer (on average) before and after commissions were required to be disclosed.

Our empirical work is motivated by recent theoretical work on the provision of advice to potential customers. Our paper tests two types of predictions that arise from this class of models. The first set of predictions concerns the quality of advice provided by commissions-motivated agents. These models predict that at least some consumers will receive low quality advice encouraging a complicated product that has higher commissions but no real benefits to them (Inderst and Ottaviani, 2012c; Gabaix and Laibson, 2006).[14] We test this by measuring the fraction of agents that recommend customers purchase whole insurance, even in the case where the customer is only seeking insurance for risk protection.

There are a number of reasons agents might indeed provide useful advice to customers, such as regulatory scrutiny, with the insurance regulator in India providing fines up to USD 200,000 (see IRDA (2012b and Halan (2013) for more detail). Second, sophisticated consumers who believe they are receiving bad advice may decline to purchase from agents, resulting in no commission for the agent (and the agent may not have a good sense of whether the customer is sophisticated). There are over 3 million insurance agents in India, making agent switching highly plausible (Anagol et al., 2014). Moreover, agents may value a satisfied customer for both cross-selling opportunities, as well as for word of mouth recommendations. Finally, the dominant life insurance company (LIC) is state-owned, with a mission to serve the interests of the "community" and "national priorities and obligations" (LIC, 2012b). LIC agents may therefore be expected to provide high-quality advice, and given its dominant position, influence the overall market.

The second set of predictions relates to how regulation and customer types affect the quality of advice. A key feature of the recent theoretical models in Inderst and Ottaviani (2012c) and

[14] While the Gabaix and Laibson (2006) paper does not explicitly deal with commissions, it does show that firms will not necessarily have the incentive to unshroud product attributes (such as commissions or low rates of return in our case) because unshrouding these will not necessarily win the firm business. In our case, the analogy would be that life insurance firms do not have the incentive to unshroud these attributes of whole insurance products because they would lose a substantial proportion of business to banks and other financial service providers if individuals move their savings out of life insurance.

Gabaix and Laibson (2006) is the presence of two types of customers, with different levels of sophistication. Inderst and Ottaviani (2012c) predict that these sophisticated types will receive better advice. We explore these forces in several ways. We systematically vary a salient feature of customer type, which is whether the customer has met with and received a recommendation from another agent before. We complement these experiments with another, reported on in the appendix, in which customers self-report having either high or low levels of sophistication: we find more sophisticated customers receive better advice.

Prior work in economics predicts that competition between firms will induce firms to disclose all relevant information regarding products (Jovanovic, 1982). In these models, mandatory disclosure enforced by the government does not change consumer decisions and does not improve welfare. However, Inderst and Ottaviani (2012c) argue that disclosure requirements can improve the quality of advice by essentially converting unaware customers into customers that are aware of how commissions can bias advice. We test how a disclosure requirement on commissions impacts financial advice by studying a particular type of insurance product, a Unit Linked Insurance Policy (ULIP), where agents were forced to disclose the commissions they earned after July 1, 2010.

4 Experimental Design

4.1 Setting

In this section we describe the basic experimental setup common to all experiments we ran in this study. Auditors were recruited via the employee networks of the Center for Microfinance (CMF), with the goal of recruiting reliable, capable individuals who would be able to conduct the audits effectively. The auditors all had at least a high school education, were predominantly middle-aged men (in their late 30s), and spoke the local language.[15]

The audit team was led by a full-time audit manager, who had previously worked managing

[15] Reports from LIC and major private providers suggest that the majority of life insurance policy holders in India are in fact men and middle-aged, leading to providers increasingly devising products to draw more youth and female customers. For more information see Press Trust of India (2012) and Jain (2009).

a financial product sales team for an international bank. This employee, along with a principal investigator, provided intensive introductory training on life insurance. Each auditor was subsequently trained in the specific scripts they were to follow when meeting with the agents. Each auditor's script was customized to match the auditor's true-life situation (number of children, place of residence, etc.). However, auditors were given uniform and consistent language to use when asking about insurance products and seeking recommendations. Scripts were memorized. The auditors and their manager were told neither the purpose of the study nor the specific hypotheses we sought to test. Auditors were instructed not to lie during any of the sessions. The audit process was designed to mimic customer behavior as much as possible, and allow our auditors to act naturally. The audits scripts were written by a former life insurance salesperson, with the goal of representing typical transactions.

We ran a series of experiments to understand under what circumstances advice might improve. In each experiment, treatments were randomly assigned to auditors, and auditors to agents. Table 1 presents the number of audits, number of auditors, and number of life insurance agents for each separate treatment cell in each of our three experiments. Since we were identifying agents as the experiment proceeded, we randomized in daily batches. To ensure treatment fidelity, auditors were assigned to use only one particular treatment script on a given day.[16] Table 1 also reports the mean of the primary outcome variable by treatment.

Life insurance agents were identified via a number of different sources, most of which were websites with national listings of life insurance agents.[17] Contact procedures were identical across the treatments. While some agents were visited more than once, care was taken to ensure that no

[16] We cluster standard errors by auditor-day in our regression analysis.

[17] The main form of agent recruitment was through India's online "yellow page" equivalents, particularly just- dial.com (considered India's major local services search engine), asklaila.com, and sulekha.com. Life insurance agent listings were limited to the given geographic zone (Chennai and Ahmedabad), phone calls were made to the listed numbers to assure that the agents were in fact present, and then validated agents comprised the pool for randomization. Because Justdial is considered the advertising medium of choice for small businesses, we believe it should draw a representative sample of agents in major metropolitan cities, confirmed by the LIC market share in the sample. For further market analysis of Justdial, see for example Krishnan (2010).

auditor visited the same agent twice and to space any repeat visits at least four weeks apart to reduce the chance that the agent would learn of the study. At the experiments' conclusion, auditors were offered a bonus which they could use towards purchasing a life insurance plan of their own choosing.[18]

Table 2 presents summary statistics across the three experiments on whose results we report in this paper. The Quality of Advice experiment was conducted in one major Indian city, and the Disclosure and Sophistication experiments were conducted in a second major Indian city.[19] Across the experiments, between 50-73% of agents visited sold policies underwritten by the Life Insurance Company of India (LIC). This fraction is consistent with LIC's market share, which was 66 percent of total premiums collected in 2010. On average, each audit lasted about 35 minutes, suggesting that these audits do represent substantial interactions between our auditors and the life insurance agents.

We took great care to address threats to internal validity.[20] To deter fraud, agents were obliged to hand in business cards of the sales agents. To monitor script compliance, we paid an insurance agent within the principal investigators' social network to "audit the auditors"—these agents reported that our auditors adhered to scripts. The outcome we measure, which policy was recommended, is relatively straightforward, and auditors were instructed to ask the agent for a specific recommendation.[21] To avoid auditor demand effects, we did not inform the auditors of the hypotheses we were interested in testing.

5 Quality of Advice

[18] At the completion of the sophistication and disclosure experiments, auditors were offered 5,000 rupee bonuses to use towards paying the premiums on a life insurance product - all chose a term policy, through LIC, with a risk cover of 650,000 - 750,000 rupees.
[19] The Shopping Behavior experiment was conducted as a sub-treatment within the Quality of Advice experiment, and thus shares the same summary statistics.
[20] Audit studies which used matched pairs to detect discrimination (e.g., Ayres and Siegelman, 1995) have drawn criticism (Heckman, 1998); our study does not use this approach.
[21] Agents sought to close a sale on the first visit, rather than suggesting a follow-up visit.

5.1 Quality of Advice: Catering to Beliefs Versus Needs

In this experiment we test the sensitivity of agents' recommendations to the actual needs of consumers, as well as to consumers' potentially incorrect beliefs about which product is most appropriate for them. In particular, one reason that agents may recommend whole insurance is a belief that customers will value the commitment savings features. To examine this, we vary the expressed need of the agent, by assigning them one of two treatments. In one set of the audits, the auditor signals a need for a whole insurance policy by stating: "I want to save and invest money for the future, and I also want to make sure my wife and children will be taken care of if I die. I do not have the discipline to save on my own." Good advice under this treatment might plausibly constitute the agent recommending whole insurance. In the other half of the audits, the auditor signals a need for term insurance by stating: "I am worried that if I die early, my wife and kids will not be able to live comfortably or meet our financial obligations. I want to cover that risk at an affordable cost." By comparing agent recommendations across these two groups, we can measure whether an agent's recommendation responds to a customer's true needs. Appendix Table A2 presents the exact wording of all of the experimental treatments in this study.

To understand the role of shopping behavior, we also varied the source auditors mentioned when talking about their beliefs. In the "No Shopped Around" treatment, the auditor named a friend as a source of the advice. In the "Shopped Around" treatment, the auditor said the suggestion had come from another agent from whom the auditor was considering purchasing.

We also randomized the customer's stated beliefs about which product was appropriate for him or her. In audits where the auditor was to convey a belief that whole insurance was the correct product for them, the auditor would state, "I have heard from [source] that whole insurance is a really good product for me. Maybe we should explore that further?" In the audits where the auditor was to convey a belief that term insurance was the correct product for them, the auditor would

state, “I have heard from [source] that term insurance is a really good product for me. Maybe we should explore that further?”

We correspondingly measured how agents responded to these different representations. Our treatments were designed to be reasonable and representative of what customers might say. Nonetheless, stronger or weaker statements may have different effect sizes, and there is no obvious way to compare the “strength” of a statement of need to the strength of a statement of bias. We therefore focus primarily on the qualitative nature of behavior changes these statements induce, rather than making quantitative comparisons of the effects of different treatments. Each of these three treatments (product need, product belief, and source of information) was assigned orthogonally, so this experiment includes eight treatment groups.

Appendix Table A3 presents a randomization check to see if there are important differences in the audits that were randomized into different groups. We include audit location fixed effects in our specifications; they do not substantially change the results.

Before describing the experimental results, we emphasize how poor the quality of advice is: for individuals for whom term is the most suitable product, only 5% of agents recommend purchasing only term insurance, while 75% recommend purchasing only whole. A previous version of this paper documented a range of wildly incorrect statements made by agents, such as: “You want term: Are you planning on killing yourself?”; “term insurance is not for women”; and “term insurance is for government employees only.” One even proposed a policy that he described as term insurance, which was in fact whole insurance.

Table 3 presents our main results on how variations in the needs of customers and biases of customers affect the quality of financial advice.[22] Column (1) presents results on whether the agent’s final recommendation included a term insurance policy (in about 18% of the cases, agents

[22] In this section we focus on the quality of advice given, and thus report results on how advice responds to a customer’s needs versus beliefs. Later, we discuss the impact of the competition treatment when we focus on how quality of advice might be improved.

recommend that the consumer purchase multiple products). We find that agents are 10 percentage points more likely to make a final recommendation that includes a term insurance policy if the auditor states that they have heard term insurance is a good product. We also find that agents are 12 percentage points more likely to make a recommendation that includes a term insurance policy if the auditor says they are looking for low-cost risk coverage. Both of these results are statistically significant at the 1 percent level. However, it is important to note that the interaction of these two variables is statistically insignificant; agents do not respond more to a customer's need for term insurance when the customer has already said that term insurance is a good product for them (and vice versa—the agent does not respond more strongly to the customer having a belief that term is a good product if the customer states the need for risk coverage).

In column (2), we add auditor-fixed effects and controls for venue and whether the agent sells policies underwritten by a government-owned insurer. The experimental results are unaffected. Agents from the government-owned insurance underwriters (primarily the Life Insurance Corporation of India) are 12 percentage points less likely to recommend a term insurance plan as a part of their recommendation. This result suggests that the government does not encourage its sales agents to provide better advice, and that government ownership does not appear to solve the problem of unsuitable advice in this context.[23]

Column (3) presents the same specification as Column (1); however, now the dependent variable takes a value of one if the agent recommended only a term insurance plan. We find much weaker results here. A customer stating that they have heard that term insurance is a good product is only 2 percentage points more likely to receive a recommendation to purchase only term

[23] There are multiple possible explanations for our finding that the government does not provide better advice. Anecdotal evidence suggests that low and medium income households tend to trust the government insurance companies more than private sector firms, and the government firm might take advantage of this additional trust by pushing less suitable products. Another possibility is that agents employed by government firms are less knowledgeable about term insurance. Our experimental design does not allow us to distinguish between these explanations so we leave such an analysis for future work.

insurance. We find that stating a need for affordable risk coverage only causes a 1.5 percentage point increase in the probability that the agent will recommend term insurance exclusively. This effect is not statistically significant at conventional levels. When the auditor states both that they need risk coverage and they have heard that term is a good product, we find an increase of 5.3 percentage points, significant at the ten percent level. Column (4) adds controls.

Thus, comparing Columns (2) and (4), it appears that agents do respond to both the biases and needs of customers; however, they do so primarily by recommending term insurance products as an addition to whole insurance products, rather than recommending the purchase of term exclusively. Overall, these results are consistent with the idea that agents maximize the expected revenue from an interaction, and the expected revenue depends both on the probability that the customer will purchase and the amount of commission that can be earned. When choosing what product to recommend, agents face a trade-off between recommending a product with higher commissions versus recommending a product that fits with the customer's pre-existing beliefs.[24] Agents do not attempt to de-bias customers who express perceived needs inconsistent with actual needs; thus, in this context it seems unlikely that commissions-motivated agents are effective in undoing behavioral biases that customers bring to their insurance purchase decisions.

Columns (5) and (6) show that stating an initial bias towards term insurance causes the agent to recommend that the customer purchase approximately 14 percent more risk coverage, while expressing a need for risk coverage increases the recommended risk coverage by 19 percent.[25] Both of these effects are significant at the five percent level, but their interaction is not. Again, these results suggest that agents will cater to the stated preferences of a customer even if the agent receives a signal that those stated preferences may be inconsistent with the customer's actual

[24] Although we do not present a formal model of this trade-off effect, it is worth noting that such a result is consistent with the Inderst and Ottaviani (2012b) model of commissions where the agent has some pre-existing beliefs about the right product.

[25] Since the dependent variables here are logged, the coefficients in Columns (5) and (6) of Table 3 are exponentiated to get these effect sizes.

needs.[26]

Columns (7) and (8) test whether the recommended premium amounts are statistically different across the treatments. We find that the bias and need treatments have small and statistically insignificant effects on the level of premiums the agent recommends that customers pay to purchase insurance. This suggests that although agents are recommending higher coverage levels for those who either have a bias towards term or a need for term (Columns 5 and 6), customers are not paying higher premiums to obtain this additional coverage. Instead, the increase in risk coverage observed in Columns (5) and (6) is due primarily to the fact that term insurance provides dramatically more risk coverage per rupee of premium.

Further evidence of this interpretation is obtained from the average amounts of risk coverage and premium amounts when agents recommended term versus whole insurance (Appendix Table A4). The table shows the amount of premium recommended and the number of years of replacement income the coverage amount represents (based on a monthly income of 15,000 Rs. the amount our auditors conveyed in the audits). We find that in the majority of cases when an agent recommended term insurance (i.e., when they combined it with a whole policy in the ”Any Term” category) they recommended a total premium level that is very similar to the amount suggested when they recommended only whole policies. The years of income replacement, however, are much larger in the case when a term policy is recommended. While we cannot say with certainty what the optimal level of coverage might be, most reasonable people would agree that 11-15 years of replacement income is more likely appropriate than only 2.9-3.4 years. These results suggest that agents are primarily targeting premiums (and therefore commissions) instead of targeting how much insurance a customer needs. Our finding here is consistent with anecdotal

[26] This coverage increase is concentrated in the term insurance increase. When we regress total term coverage on our treatments, the coefficients on need term and biased towards term are positive and significant. However, when we use the level of whole coverage, the point estimates for these same treatments are actually negative, and statistically insignificant.

evidence from discussions with our auditing team: agents typically start the life insurance conversation by estimating how much the individual can afford to put into life insurance per month, rather than determining how much risk coverage the customer needs.[27]

We note that we cannot observe what an agent infers from our experimental treatments. For example, it is possible that agents hearing a customer say that they have heard term insurance is a good product infer that the customer only needs risk coverage; or, an agent who hears a customer has heard that whole insurance is a good product assumes that the customer needs a commitment savings device. While we acknowledge that such an interpretation is possible, we do not believe it substantially changes our results. We find that agents respond equally to the "beliefs" treatments whether or not the beliefs contradict the direct statement of needs (the interaction between the "beliefs" and "needs" treatments are insignificant). If agents were primarily using our beliefs treatments as a way to make inferences about customer needs, then we would expect them to respond to beliefs less strongly when they contradict the customer's stated needs.

In summary, we find the following. Despite the fact that term is an objectively better policy, the vast majority of our visits end with a recommendation that the customer purchase whole life insurance. Second, even when customers signal that they are most interested in term insurance and need risk coverage, 79 percent of audits result in whole insurance being recommended. Third, we find that agents primarily cater to customers (either their beliefs or needs) by recommending that they purchase term insurance in addition to whole insurance, as opposed to recommending term insurance alone. It is difficult to see how combining term and whole insurance makes sense for someone who is seeking risk coverage.

[27] Such an interpretation is consistent with the idea that anchoring is an important feature of conversations between financial product providers and consumers. Agents anchor customers on the amount of premiums they can pay as opposed to the amount of coverage they need. By shifting the discussion towards amounts of premiums and away from coverage amounts, the agent can avoid the fact that term insurance provides much more risk coverage for the same premium amounts versus whole insurance.

6 Financial Advice and Market Structure

Our previous results are consistent with the models of Inderst and Ottaviani (2012c), Gabaix and Laibson (2006), and Bolton et al. (2007), which suggest that commissions-motivated sales agents will have an incentive to recommend more complicated but potentially unsuitable products to customers who are not wary of the agency problems that commissions create (at least under some market structures). In this section we turn to testing theoretical predictions on how advice responds to the regulatory and market structure.

6.1 Shopping Behavior and Financial Advice

In any given interaction between an agent and a customer, it is likely that the agent perceives that he has some market power, as finding another agent may represent a hassle for a customer. In this treatment, we attempted to experimentally reduce the agent's perceived amount of market power by varying whether the customer mentions having spoken to another agent. Accordingly, in one set of treatments, the auditor stated having heard from another agent that term (or whole) might be a good product for them; in another set, the auditor stated having heard from a friend that term (or whole) might be a good product for them.

The audits on which these data are based are the same as those used in the Quality of Advice experiment. Table 4 presents our results on the impact of this variation in shopping behavior on the quality of advice provided by life insurance agents. The specifications reported here are the same as those in Table 3, but we now introduce a dummy variable (Shopped Around) that takes the value of 1 if the auditor's bias came from a competing agent, and zero if the bias came from a friend. Columns (1) and (2) show that, overall, having received advice from another agent does not seem to have an important effect on whether agents recommend term insurance as part of their package recommendation. Columns (5) and (6) show that treatments where advice came from another agent also did not have an overall increasing effect on whether only a term

policy was recommended.

Columns (3) and (4) introduce a set of interaction terms among the bias treatment, the need treatment, and the Shopped Around treatment (agent versus friend). We are particularly interested in the treatment where the customer is biased towards whole insurance but demonstrates a need for term insurance. In this setting the agent has the potential to de-bias the auditor as their beliefs are inconsistent with their insurance needs. In Columns (3) and (4) we find that the agent is substantially more likely to de-bias customers when the customer's advice came from another agent.[28] While it is difficult to interpret the meaning of the 13 percent coefficient without knowing how much this treatment moved the priors of agents, we can reject the null hypothesis that an additional signal that the customer has shopped around has no effect at the five percent level.

We do not, however, find that receiving advice from another agent increases the possibility that agents will de-bias customers who have a belief that term insurance is a good product but need help with savings. We find that the coefficient on the interaction (Bias=Term)*Shopped Around is small and statistically insignificant.

Columns (7) and (8) report the same specification as those in Columns (3) and (4); however, the dependent variable takes the value of one if the agent recommended that the customer purchase only term insurance. We do not find any evidence that agents attempt to de-bias consumers by recommending that they only purchase term insurance. The coefficient on the interaction term (Need=Term)*Shopped Around is small and insignificant in Columns (7) and (8). We find that the effect of receiving advice from another agent is only effective, in this case, when the auditor has both a bias and a need towards term insurance. One interpretation of this result is that agents assume that a customer who has the knowledge to know that term insurance is the best

[28] This effect is measured by summing the coefficients on the variables Shopped Around and (Need=Term)*Shopped Around in column (4). The sum suggests that agents advising customers who need term but are biased towards whole are 13 percent more likely to recommend term insurance if the customer signals they have already spoken to another agent.

product for someone who needs risk coverage is almost surely going to purchase term insurance from the other agent. Thus, the agent in the audit chooses to compete by recommending only a term insurance purchase as well.

To help understand the mechanism through which our shopping behavior treatment works, we present in Figure I the fraction of audits that result in a term recommendation, across treatment assignments. Importantly, agents are not generally more likely to recommend term when an auditor has spoken to another agent. Thus, shopping around does not seem to be a signal of self-control or sophistication. Indeed, having met with another agent only has an effect when the auditor had beliefs that whole insurance was a good product, but also mentioned needing risk coverage. In this treatment, agents can demonstrate competence by recommending a product that the other agent did not recommend. However, it is also possible that the agent decided to try a different recommendation in these cases because the customer chose not to buy based on the previous agent's recommendation. Our current setting does not let us distinguish the de-biasing effect of competition from this alternative interpretation.

It is also important to note that our treatment was designed to understand how agents respond to customers for whom there will likely be more competition from other agents, not to understand how the quality of advice might change if the entire industry became more competitive. For example, greater competition amongst Indian insurers might result in different insurance products being offered, or changes in the equilibrium commission structure.[29] Our results are best interpreted as demonstrating that agents will respond differently to customers who have previously shopped around.

6.2 Disclosure

On July 1, 2010, the Indian Insurance Regulator mandated that insurance agents must

[29] For other work that induces changes in the perceived competition a product provider faces for a particular customer, see Gneezy et al. (2012) and Castillo et al. (2013).

disclose the commissions they would earn when selling a specific type of whole insurance product called a ULIP. ULIPs are very similar to whole insurance policies, except that the savings component is invested in equity instruments with uncertain returns. This regulation was enacted as the Indian insurance regulator faced criticism from the Indian stock market regulator that ULIPs should be regulated in the same way as other equity-based investment products. The insurance regulator responded to these criticisms by requiring agents to disclose commissions when selling ULIPs.

Prior to July 1, agents were required to disclose total charges (i.e., total costs, including commissions), but not required to specifically disclose how much of those charges were commissions; after July 1, both total costs and commissions were required to be disclosed. The policy experiment therefore gave customers more information on the agency problem between himself and the agent, without changing the cost, or information about total costs, of the policy. This allows us to interpret our results as the effect of better information about agency, rather than better information about costs more generally.

To focus the visits on ULIPs, agents began by inquiring specifically about ULIP products available. The experimental design here involves two components. First, we conducted audits before and after this legal change to test whether the behavior of agents would change due to the fact that they were forced to disclose commissions. Second, we also randomly assigned each of these audits into two groups, where in one group the auditor conveys knowledge of commissions and in the other group the auditor does not mention commissions. We created these two treatments as we believed only customers who have some awareness of these commissions were likely to be affected by this law change. In one group, we had the auditor explicitly mention that they were knowledgeable about commissions by stating: “Can you give me more information about the commission charges I’ll be paying?” In the control group, the auditor did not ask this question

about commission charges. The variable Disclosure Inquiry takes a value of one in the audits where the auditor explicitly mentioned commissions.

Table 5 presents summary statistics on the disclosure experiment audits. Column (1) pertains to the full sample audits, while (2) and (3) present summary statistics on the audits before and after the regulation went into effect. There are several differences between the pre- and post-audits. In particular, post disclosure change audits were more likely to be conducted with the Life Insurance Company of India, slightly longer, and the meetings took place in different venues. These differences suggest that caution is warranted when comparing the pre- and post- results. Columns (7) and (8) of Appendix Table A3 present summary statistics on the randomization of the different levels of knowledge about commissions.

6.2.1 Did the Disclosure Requirement Change Products Recommended?

We first examine whether audits conducted after the disclosure requirements went into effect were less likely to result in the agent recommending a ULIP policy. Figure 2 shows the weekly average fraction of audits that resulted in a ULIP recommendation. Prior to the commissions disclosure reform, agents recommended ULIPs eighty to ninety percent of the time. Following the reform, there is an immediate and discrete drop in the fraction recommending ULIPs, to between forty and sixty-five percent of audits. The discrete drop suggests the observed differences are driven by the disclosure requirement, rather than being attributable to a steady downtrend trend in the fraction of agents recommending ULIP policies over time.

Table 6 presents the formal empirical results. The dependent variable in Columns (1)-(4) takes a value of one if the agents recommended a ULIP product and zero otherwise. The independent variable Post Disclosure indicates whether or not the audit occurred after the legislation went into effect on July 1st (our earliest post-disclosure audits occurred on July 2nd). The variable Disclosure Inquiry equals one where the client expresses awareness that agents

receive commissions and zero otherwise. Finally, we control for the location of the audit and use auditor fixed effects.

Column (1) presents a regression without controls. We find that in the post period a ULIP product was 23 percentage points less likely to be recommended. We do not find the randomized treatment of the auditor demonstrating knowledge of the commissions significant (Disclosure Inquiry), nor do we find the interaction to be significant.

Because the composition of agents shifts over time, in Column (2), we control for whether the agent works for a government-run insurance company, as well as location and auditor fixed-effects. The point estimate is slightly smaller, but the effect is still quite sizeable at 17 percentage points.

In Columns (3) and (4), we examine agents for government-owned and private insurance companies separately. Among those selling policies underwritten by government-owned companies, there is a 26 percentage point decrease in the likelihood of recommending a ULIP policy after the disclosure law becomes effective, suggesting the change in share of LIC agents does not affect our results. Amongst private underwriters, we find a negative point estimate, although the coefficient is not significant at standard levels.

Columns (5) and (6) show that the disclosure rule does not result in better financial advice: agents are no more likely to recommend term insurance; instead, the disclosure requirement primarily causes them to substitute away from ULIPs and towards whole insurance. The point estimate, .17, is consistent with complete substitution from ULIPs to whole insurance.

In terms of magnitudes, given that the overall percentage of ULIP recommendations in this sample was 72 percent, the approximately 20 percent decrease in ULIP recommendations once disclosure commission became mandatory is an economically large effect. The ULIP disclosure law change primarily led to substitution away from high commission ULIP products to high

commission whole insurance products.

Turning to the experimental treatment, we do not find that audits where our agents showed knowledge of the new disclosure requirements are associated with lower levels of ULIP recommendations, nor with recommended levels of risk coverage or premium amounts.

The natural experiment we study here is a policy that only required disclosure for one specific high commission product, and shows that agents may attempt to avoid this disclosure. It provides less insight on what the effect might be of a more general policy change mandating commissions disclosure on all insurance policies, though the very fact that agents substituted away from ULIPs suggests regulations can change agent behavior.

6.3 Do Agents Know They Are Giving Bad Advice?

A limitation of our audit methodology is that, while we do observe agent recommendations and how they react and respond to customer behavior, we do not measure agent beliefs or preferences directly. An open question, therefore, is to what extent do agents actually know that they are giving bad advice? The answer to this question is important for how we understand equilibrium in markets for product information. If agents do know the correct advice, then this suggests that commissions may be distorting their incentives and causing them to provide unsuitable advice. However, if agents do not know what constitutes good advice, then this opens the possibility that the commissions system (or some other mechanism) somehow selects and retains agents who have mistaken beliefs about the quality of different products in this industry.

In February-May 2014 we conducted a survey of insurance agents to gain additional insight into their beliefs about product quality. We conducted these interviews at the same site of our disclosure experiments. We chose 16 agents from the Life Insurance Corporation (LIC) of India, and 16 agents from other providers using the same process used in our life insurance experiment. Surveys were conducted in person by our head surveyor, and lasted around 30 minutes; agents

were compensated for their time. Our surveyor did not explicitly mention the previous audit studies, and was never asked about them. The agents were told we were interviewing them "to better understand agent-consumer interactions, particularly agent advice to consumers, in the Indian life insurance market."

We focus on two results from this survey. The first is that nearly all agents report personally owning a whole insurance policy while only fifty percent own term insurance. This is consistent with the idea that we observe such poor advice in our audits because many agents actually believe that whole insurance is a better product.[30] If this is true, then it raises the question of why the competitive insurance market in India does not lead to the most knowledgeable agents succeeding and driving low knowledge agents out of business – an example of a failure in the market for information. One hypothesis is that competition amongst agents selects those agents with the best sales skills, as opposed to the most knowledge about insurance products. We believe this hypothesis is interesting because it suggests a reason why concerns for fairness do not limit the amount of bad advice that life insurance agents give; agents may actually believe they are giving good advice, and therefore have no "moral" qualms about recommending high commission low quality products to their clients.

The second notable result is that at least some agents do appear more likely to recommend term in hypothetical situations where the commissions motivation is reduced. We asked the agents to consider a situation in which a cousin who lived in a distant city called to ask for advice before he purchased insurance from an agent in that city. The vignette explicitly noted that, "this cousin will not buy the insurance from you, you will receive no commission, and he will buy whatever product you recommend, so you should give him the best advice possible." We posed two

[30] It is possible that they may purchase whole insurance as a sales technique, so they can credibly tell clients "this is the same policy I purchased for my family." But, agents could also just lie to customers and say they had purchased whole insurance for themselves; the fact that they own whole policies themselves likely signals some belief on their part that these products are useful.

scenarios in the vignettes, which paralleled the term need vs. whole life need audit treatments. The first cousin wanted insurance at the lowest possible premium, while the second described himself as lacking self-discipline to save and seeking a product that combined savings and insurance.[31]

Summary results from these vignettes are provided in Appendix Table A5. Sixty-nine percent of agents recommend a term insurance policy when such a policy was appropriate for the cousin. In contrast, when the distant cousin has a self-control problem, the agent recommends term only 22% of the time (p-value <.0001).[32] These results suggest that at least some agents do appreciate that term insurance offers significant value, at least for those who do not need a savings facility. At the end of our study, we asked the agents to participate in a role play exercise, in which the surveyor played the role of the customer; again, we instructed the agents to disregard any commission incentive. Results are given at the bottom half of Panel A. This time the results conform more closely to our experimental results: agents recommended term to those needing term 38% of the time, and to those needing whole 28% of the time (a treatment effect similar in magnitude to what we estimated). These results suggest that agents, when mentally "behaving" as if in the selling role, are more likely to push or promote whole insurance, although we caveat these results by acknowledging that both sets of vignettes were asked in the same interview, and were clearly hypothetical. [33][34]

Overall, our results cannot unambiguously identify the primary causes for the poor advice

[31] In the "term need" vignette, the agents are told that the cousin "is worried that if he suddenly passes away, his family will have no financial means to continue living, so he wants to purchase insurance at the lowest possible premium." In the whole need vignette, the agents are told that the cousin "lacks the self-discipline, and so if possible, he'd be happy to have an insurance product that allows him to save as well as provide insurance coverage."

[32] We can reject at a similar level the hypothesis that the share recommending term is equal to the share doing so in our original audit study as well.

[33] Unfortunately our follow-up survey did not collect information regarding the agents' mathematical abilities or experiences with actually comparing the advantages of term versus whole insurance. It would be interesting to explore, in future work, to what extent agents are familiar with the type of calculation we use to show the dominance of term versus whole insurance.

[34] In addition to questions about proper products, we surveyed agents about their typical interactions with customers. There is some support for the hypothesis that agents "lead" with whole, 69% report including whole "always or often" in their initial recommendation, while 59% include it among their final recommendation (the second column asks whether they recommend "exclusively" whole; results are similar). Our surveyed agents also report often discussing issues that were mentioned during our audit studies, suggesting our auditors were likely treated like typical customers.

we observe in this market. The fact that most agents own whole insurance themselves suggests that workers may select into and succeed in this industry because they have mistaken beliefs about products. On the other hand, our vignettes suggest that insurance agents will recommend term insurance when it is relatively clear that this is the appropriate product.

7 Conclusion

A critical question facing emerging markets with large swaths of the population entering the formal financial system is how these new clients will receive good information on how to make financial decisions. Recent events in developed economies suggest that regulation or improved consumer awareness may be necessary to ensure that the private sector's own incentives do not compromise the quality of financial decisions made by private individuals. This issue is of particular importance in emerging markets where new investors have little experience with formal financial products.

In this paper, we show that whole life insurance is economically inferior to a combination of investing in savings accounts and purchasing term insurance in the Indian context. We then run a series of audit studies to evaluate the quality of advice given by life insurance agents. Overall, we find that life insurance agents provide poor quality advice: 1) they often recommend a dominated product, 2) agents cater to customers' preconceptions of what the right product is even conditional on objective information about what the right product is, and 3) agents compete by suggesting term insurance in addition to, as opposed to as a substitute for, whole insurance, which is a difficult decision to rationalize objectively. We find some speculative evidence that competition amongst agents can improve advice: customers who report having received poor recommendations from another agent in an earlier visit are more likely to receive advice to buy term insurance. One interpretation of this result is that greater competition amongst agents might improve advice, although other interpretations are possible as well (such as agents inferring that customers who

have visited other agents are different in other ways).

In another experiment, we find that requiring disclosure of commissions on one particular product led to that product being recommended less. This result is interesting in that it suggests that hiding information may be an important part of life insurance agents' sales strategy, and that disclosure requirements can change the optimal strategy of agents. In this case it appears that the disclosure requirement on one product simply had the effect of pushing agents to recommend more opaque products. These results suggest that the disclosure requirements for financial products need to be consistent across the menu of substitutable products.

While our audit studies provide evidence that the quality of advice in this market is quite poor, what drives the prevalence of this poor information in an otherwise competitive market is still an open question. Financial markets where sales agents are motivated by commissions may cause bad advice because agents knowingly distort their advice, or because the high commissions attract and reward those agents who actually believe that high commission products are better. Survey evidence from life insurance agents suggests both of these forces play a role. Future work could focus on distinguishing these drivers, as well as understanding how these different underlying causes should influence the regulation of commissions and financial products more broadly.

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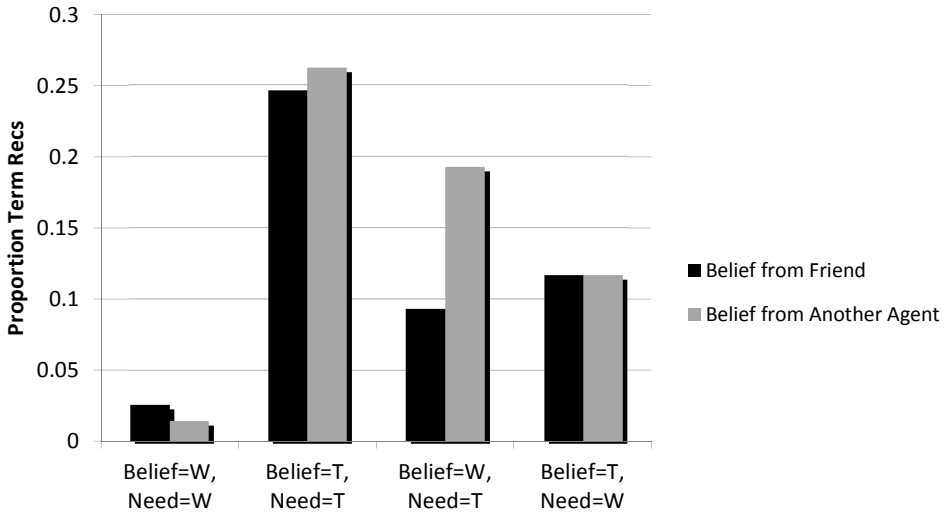
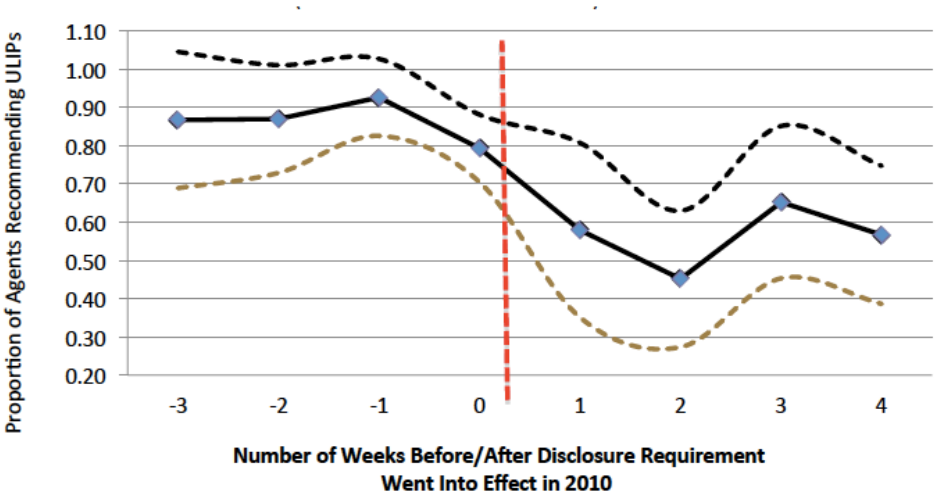
Figures and Tables

Figure 1: Fraction of Agents Recommending Term



Notes: Figure 1 assesses whether shopping behavior affects the type of advice given by the agent. Belief is equal to W if the auditor conveys to the agent a belief that whole insurance is better (T for term insurance). Need is equal to W or T if the auditor describes a set of needs for which either term or whole insurance is more suitable. The bars show the proportion of term recommendations made for each group, by the source of the information (a friend or another agent).

Figure 2: Fraction of Agents Recommending Unit-Linked Life Insurance Products (ULIP)



Notes: Figure 2 plots the fraction of agents each week recommending ULIP products to our mystery shoppers. The day the reform went into effect, July 1, 2010, is indicated by a red line, immediately to right of t-0. The proportion at t-0 includes only audits through June 31st, and the proportion at t-1 only after July 1st.

Table 1: Experimental Design

Panel A: Quality of Advice (City #1)						
By need, belief, and source of beliefs (competition)			Audits	Auditors	Agents	Term Recommended
Need Term	Bias Term	Recommendation from other agent	61	4	57	0.26
Need Term	Bias Term	Recommendation from friend	65	4	61	0.25
Need Term	Bias Whole	Recommendation from other agent	57	5	53	0.19
Need Term	Bias Whole	Recommendation from friend	75	4	70	0.09
Need Whole	Bias Term	Recommendation from other agent	77	4	70	0.12
Need Whole	Bias Term	Recommendation from friend	77	4	71	0.12
Need Whole	Bias Whole	Recommendation from other agent	68	4	62	0.01
Need Whole	Bias Whole	Recommendation from friend	77	5	73	0.03
Total [a]			557		304	
Panel B: Disclosure Experiment (City #2)						
By timing and whether auditor inquired about commission			Audits	Auditors	Agents	ULIP Recommended
Ask about commission		Pre-Disclosure Requirement	82	4	67	0.85
Ask about commission		Post-Disclosure Requirement	61	3	58	0.54
Do not ask about commission		Pre-Disclosure Requirement	67	4	54	0.81
Do not ask about commission		Post-Disclosure Requirement	47	3	40	0.57
Total [a]			257		198	
Panel C: Sophistication Experiment (City #2)						
By level of sophistication			Audits	Auditors	Agents	Term Recommended
Low level of sophistication			114	7	110	0.18
High level of sophistication			103	6	103	0.27
Total [a]			217		209	

Notes: Table 1 contains audit counts from our three experiments, disaggregated by treatment combinations. The first column provides the total number of audits for each treatment combination, the second column provides the total number of auditors involved for each treatment combination, and the third column provides the number of distinct agents visited for each treatment combination. The fourth column indicates the mean of the main dependent variable, by treatment assignment, for each experiment. Quality of Advice refers to the experiment where we varied the auditor's needs, beliefs, and the source of their beliefs (competing agent or friend). Disclosure refers to the experiment where we varied whether the auditor made a disclosure inquiry, both before and after the mandatory disclosure law, to test the law's effect on agent behavior. Sophistication refers to the experiment where we varied the auditors' expressed financial sophistication. a) Since agents may have been visited by more than one auditor, the number of agents visited is less than the total number of audits.

Table 2: Summary Statistics from Audits

	Quality of Advice	Disclosure	Sophistication
LIC Underwriter	0.73	0.50	0.69
	(0.44)	(0.50)	(0.46)
Audit Location			
Agent Home	0.18	0.14	0.12
	(0.39)	(0.34)	(0.33)
Agent Office	0.12	0.72	0.55
	(0.33)	(0.45)	(0.50)
Auditor Home	0.01	0.06	0.03
	(0.09)	(0.23)	(0.18)
Auditor Office	0.01	0.02	0.18
	(0.12)	(0.12)	(0.39)
Other Venue	0.68	0.07	0.11
	(0.47)	(0.26)	(0.31)
Audit Duration	37.13	37.58	33.22
	(10.22)	(15.88)	(12.58)
Recommendations:			
Only Whole	0.81	0.26	0.75
	(0.39)	(0.44)	(0.43)
Only Term	0.03	0.01	0.14
	(0.17)	(0.09)	(0.35)
Only ULIP	0.08	0.71	0.16
	(0.27)	(0.45)	(0.37)
Any Whole	0.90	0.27	0.82
	(0.30)	(0.44)	(0.38)
Any Term	0.13	0.01	0.22
	(0.33)	(0.11)	(0.42)
Any ULIP	0.10	0.72	0.18
	(0.30)	(0.45)	(0.38)
Observations	557	257	217

Notes: Table 2 presents summary statistics from our three experiments. Quality of Advice refers to the experiment where we varied the auditor's needs (savings vs. risk), beliefs (whole vs. term) and the source of their beliefs (competing agent or friend). Disclosure refers to the experiment where we varied whether the auditor made a disclosure inquiry, both before and after the mandatory disclosure law, to test the law's effect on agent behavior. Sophistication refers to the experiment where we varied the auditors' expressed financial sophistication. Note that "LIC" refers to the Life Insurance Corporation of India, a government-owned insurance company that has the largest share of insurers in the country.

Table 3: Do Agents Cater to Customer Beliefs or Respond to Customer Needs?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Any Term		Only Term		Ln(Coverage)		Ln(Premium)	
Bias=Term	0.096 ***	0.105 ***	0.019 *	0.022 **	0.131 **	0.125 **	-0.013	-0.019
	(0.030)	(0.028)	(0.011)	(0.011)	(0.063)	(0.060)	(0.052)	(0.047)
Need=Term	0.116 ***	0.126 ***	0.015	0.019 *	0.170 **	0.177 **	0.002	-0.005
	(0.032)	(0.030)	(0.011)	(0.011)	(0.075)	(0.075)	(0.053)	(0.050)
(Bias=Term)*(Need=Term)	0.021	0.006	0.053 *	0.049 *	0.055	0.051	0.043	0.038
	(0.058)	(0.055)	(0.030)	(0.028)	(0.129)	(0.126)	(0.066)	(0.062)
Government Underwriter		-0.121 ***		-0.017		-0.222 **		-0.039
		(0.040)		(0.021)		(0.097)		(0.050)
Audit Location								
Agent Home		0.012		-0.021		-0.069		-0.113
		(0.047)		(0.027)		(0.102)		(0.070)
Auditor Home		-0.132		-0.018		-0.499 *		-0.673
		(0.094)		(0.026)		(0.283)		(0.518)
Auditor Office		0.329 **		0.206		0.315		-0.554 **
		(0.153)		(0.141)		(0.214)		(0.216)
Other Venue		-0.018		-0.018		-0.081		-0.122 **
		(0.041)		(0.022)		(0.089)		(0.052)
Auditor Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Dep. Var. Mean	0.127	0.127	0.029	0.029	13.178	13.178	10.176	10.176
Observations	557	557	557	557	539	539	541	541

Notes: Table 3 reports regressions where the dependent variables are the (exclusive) presence of term insurance in the agents recommendation in columns (1) - (4). The dependent variable is the logarithm of risk coverage recommended in Columns (5) and (6) and of premium amount recommended in Columns (7) and (8). The main independent variables are whether the auditor expressed a bias for term, whether the auditor expressed a genuine need for term, and an interaction between these two variables. The bias for term is expressed through an auditors explicit stated preference for term, while a need for term is expressed by the auditor mentioning his/her desire to cover risk at an affordable cost (as opposed to the need for whole, which is expressed by wanting to save and invest and not feeling self-disciplined enough to do it on ones own). Dummy variables for venue location (agent office is the omitted category), whether the agent was selling insurance from a government underwriter, and auditor fixed effects are also included in columns (2), (4), (6), and (8). The number of observations in Columns (5) and (6) are less than those in (1) and (2) because agents did not recommend specific levels of coverage in 18 audits. Standard errors, clustered at the auditor-calendar day level, in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 4: Do Customers That Have Shopped Around Receive Better Advice?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	Recommended Any Term				Recommended Only Term			
Bias=Term	0.105 ***	0.106 ***	0.091 **	0.090 **	0.043 ***	0.045 ***	0.026	0.027
	(0.029)	(0.027)	(0.041)	(0.038)	(0.014)	(0.014)	(0.018)	(0.017)
Need=Term	0.127 ***	0.130 ***	0.067 *	0.068 *	0.042 ***	0.044 ***	0.027	0.029
	(0.029)	(0.027)	(0.038)	(0.035)	(0.015)	(0.015)	(0.019)	(0.020)
Shopped Around	0.024	0.033	-0.011	-0.008	0.010	0.012	0.000	0.001
	(0.027)	(0.027)	(0.023)	(0.024)	(0.014)	(0.014)	.	(0.006)
(Bias=Term)*Shopped Around			0.011	0.030			-0.013	-0.008
			(0.053)	(0.055)			(0.022)	(0.022)
(Need=Term)*Shopped Around			0.111	0.135 **			-0.027	-0.023
			(0.068)	(0.068)			(0.019)	(0.021)
(Bias=Term)*(Need=Term)			0.062	0.075			-0.006	-0.004
			(0.077)	(0.072)			(0.037)	(0.036)
(Bias=Term)*(Need=Term)*Shopped Around			-0.095	-0.158			0.125 **	0.113 **
			(0.115)	(0.116)			(0.059)	(0.055)
Government Underwriter		-0.122 ***		-0.128 ***		-0.020		-0.013
		(0.040)		(0.040)		(0.021)		(0.020)
Audit Location								
Agent Home		0.009		0.002		-0.022		-0.019
		(0.048)		(0.048)		(0.028)		(0.027)
Auditor Home		-0.138		-0.140		-0.018		-0.015
		(0.097)		(0.101)		(0.028)		(0.025)
Auditor Office		0.331 **		0.332 **		0.207		0.202
		(0.155)		(0.156)		(0.141)		(0.138)
Other Venue		-0.020		-0.028		-0.022		-0.016
		(0.041)		(0.040)		(0.023)		(0.022)
Auditor Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Dep. Var. Mean	0.127	0.127	0.127	0.127	0.029	0.029	0.029	0.029
Observations	557	557	557	557	557	557	557	557

Notes: Table 4 reports regressions where the dependent variables are the (exclusive) presence of term insurance in the agents recommendation. The main independent variable is "Shopped Around" (the main effect and the interactions with bias and need), which is signaled in an audit in two ways: first, by the auditor mentioning meeting with other providers and second, by the auditor stating a preference based on advice from another agent. Dummy variables for venue location (agent office is the omitted category), whether the agent was selling insurance from a government underwriter, and auditor fixed effects are also included in even-numbered columns. Standard errors, clustered at the auditor-calendar day level, in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 5: Disclosure Experiment Summary Statistics

	Overall	Pre-Regulation	Post-Regulation	Difference	
LIC Underwriter	0.50	0.44	0.58	0.15	***
	(0.50)	(0.50)	(0.50)	(0.06)	
Audit Location:					
Agent Home	0.14	0.09	0.19	0.10	***
	(0.34)	(0.29)	(0.40)	(0.04)	
Agent Office	0.72	0.75	0.67	-0.09	**
	(0.45)	(0.43)	(0.47)	(0.06)	
Auditor Home	0.06	0.07	0.04	-0.04	
	(0.23)	(0.26)	(0.19)	(0.03)	
Auditor Office	0.02	0.02	0.01	-0.01	
	(0.12)	(0.14)	(0.10)	(0.02)	
Other Venue	0.07	0.06	0.09	0.03	**
	(0.26)	(0.24)	(0.29)	(0.03)	
Audit Duration	37.58	36.14	39.56	3.41	***
	(15.88)	(14.33)	(17.67)	(2.00)	
Recommendations:					
Only Whole	0.26	0.15	0.41	0.25	***
	(0.44)	(0.36)	(0.49)	(0.05)	
Only Term	0.01	0.01	0.00	-0.01	
	(0.09)	(0.12)	(0.00)	(0.01)	
Only ULIP	0.71	0.83	0.55	-0.29	***
	(0.45)	(0.37)	(0.50)	(0.05)	
Any Whole	0.27	0.15	0.43	0.27	***
	(0.44)	(0.36)	(0.50)	(0.05)	
Any Term	0.01	0.01	0.01	0.00	
	(0.11)	(0.12)	(0.10)	(0.01)	
Any ULIP	0.72	0.83	0.56	-0.28	***
	(0.45)	(0.37)	(0.50)	(0.05)	
Observations	257	149	108		

Notes: Table 5 presents summary statistics from the disclosure experiment disaggregated by timing. They are used to perform a balance check, univariate regressions (with standard errors clustered at the auditor-calendar day level) of the treatment on each independent variable. Significant differences are denoted by asterisks. Standard errors, clustered at the auditor-calendar day level, in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 6: Disclosure Regulations and Product Recommendations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable:	Any ULIP Recommendation				Term Recommendation	Whole Recommendation	Ln(Risk Cover)	Ln(Premium)
Sample:	All	All	Government Underwriter	Private Underwriter	All	All	All	All
Post Disclosure	-0.23 ***	-0.17 **	-0.26 **	-0.07	0.00	0.17 **	0.15	0.03
	(0.08)	(0.07)	(0.10)	(0.08)	(0.03)	(0.07)	(0.13)	(0.08)
Disclosure Inquiry	0.05	0.02	0.06	0.00	0.00	-0.02	0.02	0.00
	(0.05)	(0.05)	(0.11)	(0.05)	(0.02)	(0.05)	(0.08)	(0.05)
Post * (Disclosure Inquiry)	-0.08	-0.04	-0.10	0.07	-0.02	0.03	0.02	-0.01
	(0.11)	(0.09)	(0.15)	(0.11)	(0.03)	(0.08)	(0.16)	(0.09)
Government Underwriter		-0.42 ***			0.01	0.43 ***	0.29 ***	0.01
		(0.05)			(0.02)	(0.05)	(0.09)	(0.05)
Audit Location								
Agent Home		0.02	0.02	0.07 **	-0.01	0.03	0.06	0.04
		(0.08)	(0.11)	(0.04)	(0.01)	(0.08)	(0.13)	(0.08)
Auditor Home		-0.01	-0.24	0.03	0.01	0.03	0.65 *	0.24
		(0.10)	(0.18)	(0.05)	(0.01)	(0.10)	(0.37)	(0.21)
Auditor Office		0.18	0.61 ***	0.05	-0.01	-0.16	0.62 ***	0.30 *
		(0.12)	(0.10)	(0.05)	(0.02)	(0.11)	(0.18)	(0.17)
Other Venue		0.06	0.04	0.06 *	-0.01	-0.04	0.07	-0.01
		(0.10)	(0.14)	(0.04)	(0.01)	(0.10)	(0.13)	(0.07)
Auditor Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dep. Var. Mean	0.716	0.716	0.500	0.951	0.012	0.268	12.248	9.947
Observations	257	257	134	123	257	257	214	253

Notes: Table 6 reports regressions where the dependent variable is a binary equal to 1 if any ULIP product is recommended for columns (1) -(4). The dependent variable in columns (5) and (6) are whether a term policy was recommended, or a whole policy was recommended, respectively. The dependent variable in columns (7) and (8) are, respectively, the logarithm of the risk coverage and premium of the recommended policy. The ULIP product is the product where disclosure of commissions was made mandatory on July 1, 2010. The main independent variables are whether or not the audit occurred after the commissions disclosure law came into effect (post disclosure), whether or not the auditor made an explicit commission disclosure inquiry, and an interaction between these two variables. Dummy variables for venue location (agent office is omitted), whether the agent is selling insurance from a government-owned insurer, and auditor fixed-effects are included in even-numbered columns. Standard errors, clustered at the auditor-calendar day level, in parentheses, $*p < 0.1$, $**p < 0.05$, $***p < 0.01$.

Online Appendix To: Understanding the Advice of Commissions-Motivated Agents: Evidence from the Indian Life Insurance Market

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October 21, 2015

APPENDIX FOR ONLINE PUBLICATION

A Online Appendix 1: Comparing Term and Whole Life Insurance Products

This section compares the value to the customer of term vs. whole life insurance policies in India. Rajagopalan (2010) conducts a similar calculation and also concludes that purchasing term insurance and saving dominates purchasing whole or endowment insurance plans. We examine policies offered by the Life Insurance Corporation of India, the largest insurance seller in India, and by ICICI Pru, a private insurer. We focus on policies chosen by the two companies to provide (required) "illustrations" of policy benefits: the LIC Whole Life Policy (Plan #2), and the ICICI Pru Whole Life Non-Linked policy.[1] Whole plans dominate the market, with an 80% market share in 2000, the last year for which we could find aggregate market data (IRDA, 2012a). In 2012, LIC continued to report that the endowment policy is its most popular plan (LIC, 2012a).

For the whole life policy, we assume a coverage of Rs. 2,500,000, approximately $50,000. The illustrated policy requires 45 annual payments of Rs. 70,414, (ca. $1,400 at the 2010 exchange rates), for a 45-year coverage period, with a base cover of Rs. 2,500,000 if the client dies before age 80, or an equivalent maturation benefit if the client survives until age 80. In the case of the Whole Life policy, the coverage amount may increase by annual bonuses declared by the insurance company. In the past several years, bonuses for whole life policies have averaged 6.9% of the original coverage amount of the insurance policy, though companies make no express commitment to the presence, or size, of a bonus. Unlike interest or dividends, these bonus payments are not paid to the client directly; instead, the bonus is added to the national coverage amount/maturity benefit. Data from 2005-2011 suggest that bonus rates remain relatively fixed. For LIC, over this period, whole life bonus was 6.6% in 2006 and 7.0% each subsequent year; the endowment policies offered lower bonuses (4.0%-4.2%).

A critical point to be made here is that the bonus is not compounded. If the company declares a 6.9% bonus each year, the amount of coverage offered by the policy will increase by Rs. 172,500 each year (6.9% of Rs. 2,500,000). These additional discretionary bonuses thus provide Rs.

[1]The term "endowment" is typically used to describe a whole insurance plan with a shorter policy period, although different firms appear to use the terms endowment and whole to describe very similar policies. In general, there are no well-defined differences between policies with the term endowment versus whole in their titles. Both policies have substantial savings components, bonus payments, and large premiums.

7,762,500 in additional coverage in the final year (172,500 for each of the 45 years of the policy). If instead the policy grew at a 6.9% compounded annual rate from years 1 to 45, the policy value would increase by nearly Rs 48 million.[2] Levy and Tasoff (2012) and Stango and Zinman (2009) observe that individuals have difficulty understanding exponential growth. Consumers who do not understand compound interest may not realize how slowly non-compound bonus payments grow, and may underestimate how quickly inflation erodes the value of nominal payout amounts. (The official inflation rate was approximately ten percent during our audits).

The ICICI Pru life policy provides coverage for ten years, requiring ten annual premium payments of Rs. 15,140 provides for Rs. 100,000 of coverage–though in case of death over this ten year period the policy in fact pays Rs. 200,000 in benefits, plus accumulated bonuses. The illustration indicates a bonus of Rs. 1,600 per annum. Upon maturity, the policy pays the sum assured, along with the annual bonuses, and a final termination bonus, for a total payment of Rs. 137,782.

A second feature of the whole insurance policies may be their relative attractiveness to naive, loss-averse consumers. Agents frequently dismissed term insurance as an option, arguing that the customer was likely to live at least twenty years, hence the premiums would be "lost" or "wasted," while whole life guarantees at least the nominal premium paid returned. In Appendix Table A1, we evaluate two investment insurance products by creating replicating portfolios which consist of a term insurance policy plus savings. All Indians can save an arbitrary amount in national savings certificates, offered by the government, which guarantee 8 percent return and have the same tax treatment as insurance policies.[3]

Each year, the replicating portfolio provides at least as much coverage (savings plus insurance coverage) as the investment policy, while requiring the exact same stream of cash flows from the client. Panel A considers products from LIC.[4] If instead of paying Rs. 70,414 for the whole life plan, a buyer instead bought a 35-year term policy with Rs. 3,500,000 in coverage, he would pay Rs. 19,145 each year for 35 years. For the first 35 years of that period, he could save the difference,

[2]Rs. 2,500,000*1.06945-2,500,000=47,842,727.7

[3]Both insurance premium payments and deposits into national savings certificates are deductible from income tax up to 100,000 rupees per year. Similarly, the Public Provident Fund, run by the government of India, offers guaranteed returns of 8.7% per annum, tax free.

[4]Payout amounts for this policy are described in LIC sales documents, with bonus amounts based on an LIC assumption of 6% per annum return.

equal to Rs. 51,269 (70,414 – 19,145). In years 35-45, the replicating portfolio contributes Rs.70,414 to the savings balance, as the term policy will have expired.

In each year, the death benefit (of the term payout plus savings) would be greater than the benefit from the whole policy, including any bonuses. The differences can be dramatic: for death at age 35, the replicating portfolio provides 42 percent more coverage; for death just before the policy expires, the replicating portfolio provides more than twice as much. After 35 years, the term policy has no value, but the savings balance is on its own worth 21 percent more than the whole insurance coverage amount.

Panel B evaluates term vs. whole insurance from one of the large private sector providers. Here, the differences are even more dramatic. A ten-year endowment policy with Rs. 100,000 nominal coverage will yield, after bonuses, a final value of Rs. 137,782 when it matures. In case of death before age 45, the policy will pay out Rs. 200,000, plus up to Rs. 16,000 in bonuses. A replicating portfolio here would involve taking ICICI's term life policy, which, for Rs. 3,409, provides Rs. 2,050,000 in case of death, or approximately ten times as much coverage. By saving the difference in premiums (15,140-3,409), the replicating portfolio would yield Rs. 198,220 after ten years. Thus, the client gets ten times as much coverage and, if he survives ten more years, is left with 23 percent more cash.

B Online Appendix 2: Model of a Dominated Financial Product

We, and others, have argued that whole life insurance is dominated by term insurance for individuals who seek insurance mainly for risk coverage. While the goal of this paper is to understand commissions-motivated agent behavior (rather than offer a competitive analysis of the Indian insurance industry), it does raise a puzzle: why do the more expensive, dominated products, such as whole insurance, persist in a setting with competition? We consider here how a dominated product could survive, even in a competitive equilibrium.

We present a simple model, inspired by Gabaix and Laibson (2006), which provides one explanation for how a dominated financial product might exist in competitive equilibrium. The model takes the empirical results found in this paper, that commissions-motivated agents appear to provide poor financial advice, and shows how if at least some consumers are persuaded by

bad advice, then it is possible that a dominated product like whole insurance could persist. The model may be particularly relevant for a country like India with a large number of new insurance customers entering the market who are still learning about these products and may be less sensitive to important differences in the long run returns available.[5]

In the model, we focus primarily on the risk coverage offered by the insurance products. The price of term insurance is the premium, while the "price" of whole insurance should be thought of as the premium cost minus any savings value that exists beyond the risk coverage. This is equivalent to assuming that whole insurance can be replicated by purchasing term insurance and investing in a savings account. Thus, the model is set up such that buyers should choose whole insurance only if the price is cheaper than term insurance. However, we show that an equilibrium is possible where whole insurance has a higher price than term insurance.

The model has two types of consumers. Sophisticated consumers understand that whole and term insurance are the same product (and thus would always choose the cheaper one), know their own optimal amount of insurance, given prices, and are immune to the persuasive efforts of agents. There is a fixed, exogenous number of sophisticated consumers, s, who want to purchase term insurance, and each has a demand function for term insurance equal to $\alpha - p_t$, where p_t is the price of term insurance.

Unsophisticated consumers, in contrast, can be persuaded to purchase a dominated product if there is an agent that exerts enough effort. In particular, we assume that unsophisticated agents demand an amount of insurance $\alpha - p_w$ once they have met with a commissions-motivated agent. Agents must exert effort to identify and sell to unsophisticated consumers. We assume that the number of customers they find is equal to the commission on selling insurance set by the insurance company, c. Intuitively, the higher the insurance firm sets commissions, the more incentive agents have to approach customers and sell insurance. In addition to commissions payments, the insurance firm incurs an underwriting cost of k per unit of either term insurance or whole insurance sold.

The game play is as follows. In period 0, the firm(s) choose whether to offer term, whole, or both insurance products. They also choose the prices p_w and p_t and the commissions they will pay

[5]Our model differs from Gabaix and Laibson (2006) in two ways. First, we explicitly include the idea that unsophisticated consumers can be persuaded to purchase dominated products by commissions motivated agents. Second, agents choose to shroud the quality of the product (i.e. the poor financial returns of a whole insurance product) as opposed to the price of the product.

agents to sell whole and term insurance (c_w, c_t). In period 1 agents respond to the incentives set by the insurance companies, and consumers make decisions on how much whole and term insurance to purchase. The last two sections of this Appendix present the specific calculations for the model; we omit those calculations here to focus on the main intuition of the results.

B.1 Monopolist Insurance Company

A monopolist insurance firm has three possible options: (1) offer only term insurance, (2) offer whole and term insurance, (3) offer only whole insurance. In a later section of the Appendix, we show that the monopolist insurance firm will choose to offer both term and whole insurance. The monopolist firm will pay zero commissions for the sale of term insurance (as paying commissions on term insurance does not increase demand) and will charge a price of $\frac{\alpha+k}{2}$ for term insurance. The monopolist firm will pay positive commissions for the sale of whole insurance because demand is increasing in commissions. The firm will set the whole insurance price (p_w) equal to $\frac{1}{3}(2\alpha + k)$ and will pay commissions $\frac{1}{3}(\alpha - k)$. Note that as long as $\alpha > k$ (a condition necessary for there to be positive demand for insurance), the price of whole insurance will be higher than the price of term insurance.

The intuition for this solution is that offering both term and whole insurance offers the monopolist firm a way to set different commissions and prices for sophisticated versus unsophisticated customers. Sophisticated consumers cannot be persuaded by commissions-motivated agents, and thus the firm chooses to set commissions to zero and charge lower prices for term insurance. However, unsophisticated consumers can be persuaded to purchase whole insurance. Thus, the insurance firm chooses to pay higher commissions to encourage agents to persuade consumers to purchase insurance, and then passes these higher commissions onto the consumer in terms of higher prices.

B.2 Two Competing Insurance Companies

We now analyze the impact of competition by considering a Bertrand pricing game where two firms compete by setting term and whole commissions and prices. This game has two players, firm i and firm j. A strategy in this game consists of, (1) a choice of which products to offer (term, whole, or both), and (2) prices and commissions for each product offered. A firm's payoff function is the

profit it earns given its choice of what products, prices, and commissions to offer as well as the other firm's choices.

The payoffs are defined as follows. For term insurance, we use the usual Bertrand pricing game (with homogenous products) assumption that firm i obtains the full market of all s sophisticated consumers if $p_i < p_j$ (and vice versa). For whole insurance, consumers can be influenced to purchase both by higher commissions and lower prices. The number of unsophisticated consumers that firm i sells to given it pays commissions c_i is $c_i - bc_j$. The parameter b, which we assume is always greater than zero, measures the degree to which firm i and j's insurance products compete with each other for customers. If b equals zero then the fact that firm j is paying high commissions does not change the demand for firm i's insurance. If b is large, however, then an increase in commissions by firm j causes a fraction of consumers to switch from firm i's insurance product to firm j's product.

Note, however, that once unsophisticated consumers have been persuaded to purchase from a particular firm because of commissions, the insurance company can charge them the monopoly price. In this sense, competition for unsophisticated consumers happens primarily through commissions, and not through prices. The intuition is that unsophisticated consumers respond strongly to the persuasiveness and effort of agents in choosing what product to buy, but less strongly to the level of prices.

Bertrand competition over prices in the market for term insurance leads to both firms pricing term insurance at marginal cost k. Later we show that the Nash equilibrium commissions on whole insurance are $c_i^* = c_j^* = \frac{\alpha - k}{3-2b}$, and the Nash equilibrium prices are $p_i^* = p_j^* = \frac{(2-b)\alpha + (1-b)k}{3-2b}$. Note that for commissions and prices to be positive we need $b \leq \frac{3}{2}$.

Even though term and whole insurance are the same product in this model, an equilibrium exists where whole insurance has a higher price than term insurance, and where competition between firms will not eliminate this dominated product. Analogous to the result in Gabaix and Laibson (2006), a strategy of un-shrouding the whole policy does not work because selling the dominant term policy does not offer the margins necessary to pay large commissions. In other words, if commissions are the best way to educate consumers about products, then the firm must somehow make up for these higher commissions by selling a higher cost product. Thus, it is not profitable for firms to educate consumers on the fact that whole insurance is simply an expensive version of term insurance. In equilibrium, firms sell low commission term insurance to sophisticated consumers,

and high commission whole insurance to unsophisticated consumers.

The model also has an interesting prediction on the impact of competition in this market. When paying commissions causes the competitor to lose more business (b increases), competition amongst firms leads to an increase in commissions and prices.[6] Thus, when insurance firms attract customers mainly through commissions, competition can actually lead to higher prices (and commissions), relative to a monopoly provider. The intuition for this result is that for a monopoly provider, paying higher commissions loses more in profits due to higher costs than it gains in extra business. However, when firms compete over commissions, then it becomes necessary to pay higher commissions to win business, and profits for each sale are lower because more commissions have to be paid.

We believe this model is a plausible explanation for why a dominated product like whole insurance can persist in this market. The model fits the basic empirical facts observed in this market: 1) term insurance and whole insurance co-exist, although whole insurance can be replicated by term insurance and savings accounts, 2) commissions on whole insurance are substantially higher than those on term insurance, 3) agents provide poor advice (i.e do not try to de-bias consumers towards term insurance), and 4) the industry has multiple, seemingly competitive, insurance providers. Nonetheless, further empirical work is necessary to distinguish the importance of this model versus other models of dominated products. For example, Heidhues et al. (2012) present a model where competition amongst firms does not eliminate dominated products. Their model makes the plausible assumption that there is a natural lower bound on the up-front prices that firms can charge; a mutual fund cannot charge less than a zero percent front-end load, otherwise they would attract low profit consumers who simply want to pocket the payment for investing but then avoid all future fees. The authors show that under such an assumption, a separating equilibrium can exist where sophisticated consumers purchase the transparent product (such as term insurance plus savings in our context) and unsophisticated consumers purchase dominated products (whole insurance).[7] It is

[6] See appendix for the proof that prices increase.

[7] The applicability of the Heidhues et al. (2012) model is perhaps less clear in the case of insurance as it is not obvious what the price floor is in the insurance context. However, Heidhues et al. (2012) do note that their prediction on the existence of dominated products should also go through, at least qualitatively, when firms are less willing to cut up-front prices than shrouded add-on fees. For example, in the case of mortgages, where the up-front fee might be thought of as the initial monthly payments, and the add on fees as pre-payment penalties, it is possible that even under competition firms will prefer not to lower initial monthly payments too low because it will attract risky borrowers. In the case of life insurance, it might be the case that firms do not want to lower up-front premiums too much because it will attract customers with higher mortality rates. Nonetheless, Heidhues et al. (2012) state that

also possible that entry barriers in the Indian insurance industry create an environment where firms offer low quality products due to market power. We leave distinguishing these various explanations for future work.[8]

B.3 Calculations: Monopolist Insurance Company

The monopolist has three possible options. One option is to offer only term insurance. If he chooses this option he chooses prices and commissions to maximize:

$$\max_{\{p_t,c_t\}} s(p_t - c_t - k)(\alpha - p_t) + c_t(p_t - c_t - k)(\alpha - p_t)$$

The first order condition with respect to price p_t is $(s+c_t)(p_t-c_t-k)(-1)+(s+c_t)(\alpha-p_t) = 0$, which simplifies to $p_t = \frac{\alpha+k+c_t}{2}$. The first order condition with respect to c_t is $(s + c_t)(p_t - \alpha) + (\alpha p_t - \alpha k - p_t^2 - c_t\alpha + kp_t + c_t p_t) = 0$. Solving this system of equations yields the solution $c_t = \frac{\alpha-k-2s}{3}$ and $p_t = \frac{2\alpha+k-s}{3}$. Note that we need $s \leq \frac{\alpha-k}{2}$ to guarantee that commissions are non-negative (this condition also guarantees that prices are non-negative).[9]

The monopolist's second option is to offer both term and whole insurance. This option essentially constitutes price discrimination, where low prices and zero commissions are associated with term insurance for sophisticated consumers, and high prices and commissions are associated with whole insurance and unsophisticated consumers. The firm will pay zero commissions for the sale of term insurance; paying commissions does not increase demand but it does increase costs. The monopolist firm chooses the term insurance price p_t to maximize $s(p_t - k)(\alpha - p_t)$. The first order condition for p_t is $\alpha - 2p_t + k = 0$. The firm will choose to charge a price $\frac{\alpha+k}{2}$ for term insurance. Total profits from the sale of term insurance will equal $\frac{s(\alpha-k)^2}{4}$.

The firm will pay positive commissions for the sale of whole insurance, because demand is

the case where up-front fees are not near zero in reality (such as mortgages or life insurance) are "less clear-cut" examples of their model. More research is necessary to determine whether lowering up-front costs such as initial mortgage payments or insurance premiums is very costly to firms in terms of the types of customers such changes attract.

[8] It is important to note that the Indian insurance industry is characterized by significant barriers to entry, including licensing restrictions and capital requirements, as well as scale economies.

[9] Intuitively, this condition rules out a situation where there are a large number of sophisticated consumers, and thus the firm would choose to pay negative commissions (i.e. force agents to pay the firm for selling to sophisticated consumers). If commissions were negative, agents would have no incentive to sell insurance in this model.

increasing in commissions. The firm maximizes the total profit function from selling whole insurance to unsophisticated customers: $c_w(p_w - k - c_w)(\alpha - p_w)$. The first order condition with respect to price is $c_w\alpha - 2p_wc_w + c_wk + c_w^2 = 0$. The first order condition with respect to the commission level c_w is $c_w(p\alpha - k\alpha - 2c\alpha - p^2 + pk + 2cp) = 0$. Solving these two first order conditions we find that the firm will set the whole insurance price (p_w) equal to $\frac{1}{3}(2\alpha + k)$ and will pay commissions $\frac{1}{3}(\alpha - k)$.

We now show that when both products are offered and prices and commissions are chosen separately for each, the price of term insurance will be lower than the price of whole insurance:

$$\frac{\alpha + k}{2} < \frac{1}{3}(2\alpha + k)$$

This expression can be simplified to $\alpha > k$, which must be true for there to be any positive demand for either insurance product. Thus, the monopolist will always choose higher prices for the whole insurance product than the term insurance product. Intuitively, the monopolist pays higher commissions on whole insurance to attract consumers, and then passes on those commissions as higher prices. Total profits from the sale of whole insurance under the price discrimination strategy is $\frac{(\alpha-k)^3}{27}$. Total profits from the strategy of offering both term and whole products is $\frac{s(\alpha-k)^2}{4} + \frac{(\alpha-k)^3}{27}$.

The monopolist's third option is to offer only whole insurance. The sophisticated types never buy this, and the chosen p_w and c_w would be equivalent to those in Case 2. Thus, the firm can always add term insurance paying zero commissions and increase its profits. Thus, the monopolist firm will never offer only whole insurance.

We now show that the monopolist firm will always choose to offer both products as opposed to offering just term insurance. Intuitively, the monopolist can offer term and whole insurance products to price discriminate amongst the two types of consumers. In this case, price discrimination takes the form of offering higher commissions for sales of whole insurance to unsophisticated customers, and commissions equal to zero for sales of term insurance to sophisticated customers. We begin by showing that the profits from term consumers will always be lower when only term insurance is offered versus when both term insurance and whole insurance are offered.

The total profit from selling term insurance when both products are offered is $\frac{s(\alpha-k)^2}{4}$. The total profit from sophisticated consumers when only term insurance is offered is $s[\frac{1}{3}(2\alpha+k-s) - \frac{1}{3}(\alpha-k-2s)][\alpha - \frac{1}{3}(2\alpha+k-s)]$. We wish to show that:

$$\frac{s(\alpha-k)^2}{4} > s[\frac{1}{3}(2\alpha+k-s) - k - \frac{1}{3}(\alpha-k-2s)][\alpha - \frac{1}{3}(2\alpha+k-s)]$$

$$\frac{(\alpha-k)^2}{4} > \frac{1}{9}(\alpha-k+s)^2$$

Taking the square root of both sides, we have $\frac{\alpha-k}{2} > \frac{1}{3}(\alpha-k+s)$, which simplifies to $\frac{\alpha-k}{2} \geq s$. Note that this is the same condition we needed to guarantee that commissions and prices are positive. Thus, the profits from selling to sophisticated consumers will be higher when both term and whole insurance products are offered, with different commissions and prices, than when term is sold to all customers.

We now show that the profits from unsophisticated consumers are also higher when the price discrimination strategy is followed. The profits on unsophisticated consumers under the price discrimination strategy are $\frac{(\alpha-k)^3}{27}$. The total profit from unsophisticated consumers when only term insurance is offered is $[\frac{1}{3}(\alpha-k-2s) - \frac{1}{3}(\alpha-2s)][\alpha - \frac{1}{3}(2\alpha-s)]$. Simplification shows that the price discrimination strategy yields higher profits as long as $3(\alpha-k)+2s > 0$, which must be true, as both $\alpha-k$ and s are non-negative.

Thus, we have shown that a monopolist firm will choose to sell both term and whole insurance, at different prices, to sophisticated and unsophisticated customers respectively. We have also shown that the monopolist will choose higher prices and commissions for whole insurance than for term insurance.

B.4 Calculations: Two Competing Insurance Companies

We first solve for firm i's optimal behavior given firm j's possible behavior. Suppose firm j only offers whole insurance paying commission c_j and charging price p_j. In this case firm i will always choose to sell both whole and term insurance. If he chose to sell only one of these products, he could increase his profits by entering the term insurance market as a monopoly provider. Thus,

there cannot be an equilibrium where both firms only sell either only term insurance or whole insurance.

Now suppose firm j offers both term and whole insurance. We show that there is one possible equilibrium in this case. Bertrand competition in the market for term insurance gives a Nash equilibrium $p_{i,t} = p_{j,t} = k$. In the term insurance market prices get driven down to marginal cost. Competition in the market for term insurance leads to lower prices, as sophisticated consumers are not persuaded by commissions in their decisions to purchase insurance products.

We now solve for a Nash equilibrium in the market for whole insurance. A price and commissions pair $(c_1^*, p_1^*, c_2^*, p_2^*)$ is a Nash equilibrium in the market for whole insurance if (c_i^*, p_i^*), for each firm i, solves the following problem (we suppress w subscript, but the commission and price term refer to whole insurance):

$$\max_{c_i, p_i} (c_i - bc_j^*)(p_i - k - c_i)(\alpha - p_i)$$

The first order condition with respect to p_i can be simplified to: $\frac{1}{2}(\alpha + k + c_i) = 0$. The first order condition with respect to c_i an be simplified to $c_i^* = \frac{1}{2}(p_i - k + bc_j)$. Solving these two equations in two unknowns we find that firm i's optimal choices given firm j's choices are: $c_i^* = \frac{\alpha - k + 2bc_j}{3}$ and $p_i^* = \frac{1}{3}(2\alpha + k + bc_j)$. In a Nash equilibrium, firm j plays the same best responses given firm i's behavior, and thus we have: $c_j^* = \frac{\alpha - k + 2bc_i^*}{3}$ and $p_j^* = \frac{1}{3}(2\alpha + k + bc_i^*)$.

Solving this system of equations we find that the Nash equilibrium commissions are $c_i^* = c_j^* = \frac{\alpha - k}{3 - 2b}$, and the Nash equilibrium prices are $p_i^* = p_j^* = \frac{(2-b)\alpha + (1-b)k}{3-2b}$. Note that for commissions and prices to be positive we need $b \leq \frac{3}{2}$.

It is clear from the expression $c_i^* = c_j^* = \frac{\alpha - k}{3 - 2b}$ that the level of commissions paid will increase in the degree to which the insurance products compete with each other (b). We now show that prices are also increasing in b. We wish to show that the derivative of the expression for equilibrium prices with respect to b is greater than zero:

$$(3 - 2b)^{-1}(-\alpha - k) - (3 - 2b)^{-2}((2 - b)\alpha + (1 - b)k) > 0$$

This expression can be simplified to $\alpha > k$, which must be true for there to be any positive demand for the insurance product.

C Online Appendix 3: Calibration of Preferences for Hyperbolic Consumers

In this appendix we conduct a simple calibration to determine whether time-inconsistency can plausibly explain the demand for whole insurance as a savings device in India. The setup of our model closely follows Harris and Laibson (2001).Whole insurance may be valuable to a consumer because it serves as a way for the consumer to commit future selves to saving.

To simplify the problem, we assume that a 35-year-old consumer has a starting asset stock of A_1 and must decide how much of it to save and spend over the next 45 years.

We compare two savings scenarios. In the first scenario, the consumer only has access to an illiquid savings instrument such as Indian whole insurance. This instrument pays a gross return R_w. In the second scenario the consumer only has access to a liquid savings account which pays a gross return R_l.

In period t the consumer has cash-on-hand x_t. We consider the standard buffer-stock savings model which rules out borrowing, so the consumer must choose consumption $c_t \in [0, x_t]$. Cash on hand in the next period is $x_{t+1} = R_i(x_t - c_t)$.

The individual is modeled as a sequence of autonomous selves from periods 0,1,2,...45. Each self controls the consumption choice in his period only. The self making the consumption choice in period t faces the present-value of utility:

$$U(c_t) + \beta \sum_{i=t}^{45} \delta^i U(c_{t+i})$$

$\beta \in [0, 1]$ is the discount factor for the next period, and $\delta \in [0, 1]$ is the long-run discount factor. We assume log utility.

Online Appendix Figure A1 plots the present value of utility for our hyperbolic consumer under the whole insurance product and the liquid savings product. We are primarily interested in the value of β where these two curves cross. Below this crossing point, the consumer's lifetime

utility is higher with the commitment device savings product; at low values of β the consumer has a strong time inconsistency and therefore benefits from the ability to commit to savings. Above the crossing point, the consumer's time inconsistency problem is less severe, and so the higher interest rate available on the liquid savings product provides more utility than the commitment feature of whole insurance.

The national savings certificate we assume as our consumer's liquid savings device pays a government guaranteed interest rate of 8 percent. We calculate that the implied interest rate in the whole insurance savings product (Whole Life Policy No. 2 - see Appendix Table A1) is approximately 4.5 percent. Figure A1 plots the present value of utility of the 35-year-old against the β parameter in the case where he can only save through the whole life insurance product (solid line), versus the case where he can only save through the liquid savings product (dashed line).

In this simulation, we find a crossing point of $\beta = .4$. Most published estimates of β (although not all) are larger than this, centering at around .7 or so. This suggests that Indian consumers would have to be unusual in their time inconsistency to have such a strong preference for whole insurance.

D Online Appendix 4: Customer Sophistication Experiment

In this experiment, we manipulated the level of sophistication about life insurance policies projected by the auditor. The purpose of this experiment was to document disparate treatment across sophisticated versus unsophisticated customers, which is a key feature of models of financial advice such as Inderst and Ottaviani (2012). We discuss the potential mechanisms underlying this disparate treatment after presenting the results. Each auditor was randomly assigned to portray either high or low levels of sophistication.

Sophisticated auditors say:

"In the past, I have spent time shopping for the policies, and am perhaps surprisingly somewhat familiar with the different types of policies: ULIPs, term, whole life insurance. However, I am less familiar with the specific policies that your firm offers, so I was hoping you can walk me through them and recommend a policy specific for my situation."

Unsophisticated agents, on the other hand, state:

"I am aware of the complexities of Life Insurance Products and I don't understand them very much; however I am interested in purchasing a policy. Would you help me with this?"

To ensure clarity of interpretation of the suitability of recommendations, we built into the auditors' script several statements that suggest a term policy is a better fit for the client. Specifically, the auditor expressed a desire to maximize risk coverage, and stated that they did not want to use life insurance as an investment vehicle. These treatments should be interpreted as shifting the agent's prior beliefs about the sophistication of the consumer, as opposed to completely defining whether the customer is sophisticated. Given that we do not observe how much our treatments shift the agent's prior beliefs, we are more interested in the qualitative result of whether the treatments matter at all, versus the precise size of the impact.

Appendix Table A6 presents a randomization check for the Sophistication experiment. The only statistically significant difference between the sophisticated and non-sophisticated treatments is that the sophisticated treatments were about eight percentage points less likely to occur at other venues. Overall, the randomization in this experiment appears to be successful. We control for audit location in our results and find this has little impact on the effect of sophistication on recommendations.

The results from the sophistication experiment, reported in Appendix Table A6, provide some evidence in support of our prediction that sophisticated customers will receive better advice. We use the same specification as in the previous experiments to analyze this data. In Column (1) the dependent variable takes a value of one if the agent's recommendation included a term insurance plan, and zero otherwise. We find that the sophisticated treatment is not statistically different from zero at the 10 percent confidence level (p=.12). In Column (2), when we include a set of control variables, the virtually unchanged point estimate now becomes significant (p=.09). Thus, there is at least some evidence that agents make some attempt to cater to sophisticated individuals by offering term insurance.

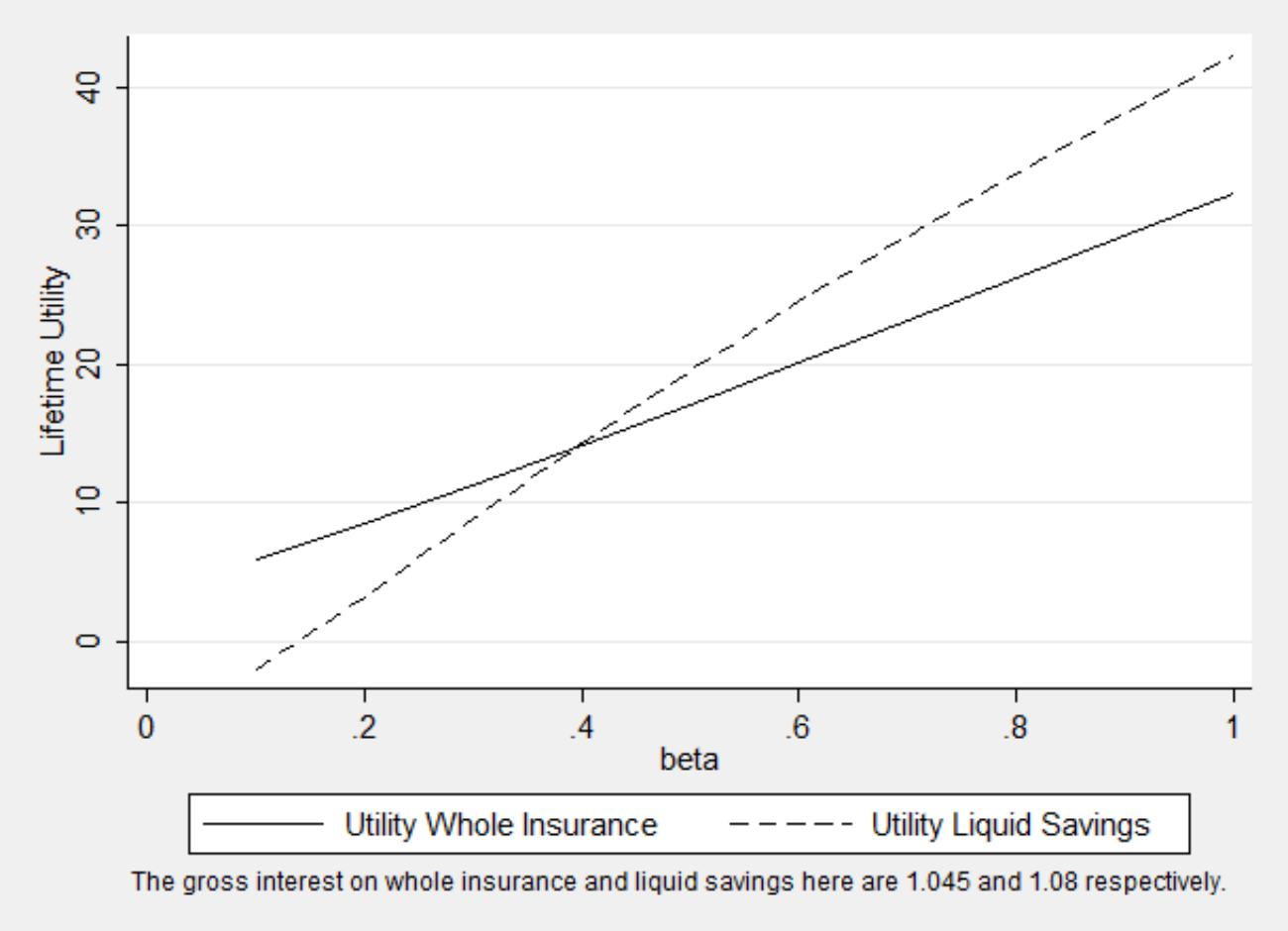
However, in Columns (3) and (4), where the dependent variable takes a value of one if the agent recommended that the auditor purchase only a term insurance plan, we find there is

no statistically significant effect of sophistication. Similar to the results in the bias versus needs experiment, it appears that agents attempt to cater to more sophisticated types by including term as a part of a recommendation. However, they do not switch to recommending exclusively term insurance, even to customers who signal sophistication.

In Columns (5) and (6) we look at the impact of sophistication on the amount of coverage recommended by the life insurance agent. Without controls, we find that sophisticated agents receive guidance to purchase 25 percent more insurance coverage (Columns 5 and 6). The p-value is on the significance threshold (p=.102). In Columns (7) and (8) we test whether sophisticated agents receive different recommendations in terms of how much premiums they should pay for insurance. We find that signaling sophistication does not have an important impact on the amount of premiums that agents recommend paying, although the confidence interval admits economically meaningful effects of more than 20 percent lower premium costs. Combining the results in Columns (5) - (8), we see that, similar to our results on coverages and premiums in the other experiments, agents seem to recommend that approximately the same amount of premiums be paid, regardless of our intervention; they cater to customers primarily by adding a relatively inexpensive term product on top of whole insurance to increase risk coverage without substantially changing premium payments.

Overall, these results suggest that agents may discriminate based on their impression of customers. One possible mechanism is that agents internalize that sophisticated agents are not swayed by false claims, and thus presenting dishonest information to sophisticated agents is wasted persuasive effort. In the specific context of our audits, this prediction suggests that life insurance agents should be more likely to recommend the term policy to sophisticated agents. Another possible mechanism is that conveying knowledge about insurance products signals to the agent that this customer is the type who would prefer term insurance. A third possible mechanism is that insurance agents want to help unsophisticated consumers by selling them whole insurance because it bundles two products into one.

Figure A1: Lifetime Utility with Whole and Liquid Savings Products



Notes: Figure A1 shows the present value of utility of a 35-year-old saver changes as the degree of time inconsistency β increases, under the whole savings product and the liquid savings product.

Table A1: Comparison of Whole vs. Term Plus Savings

			Whole/Endowment Policies	Term Life Insurance
Panel A: Life Insurance Corporation of India Product Comparison				
Specific Plan Example			*The Whole Life Policy (Plan No. 2)*	*Amulya Jeevan (Plan No. 190)*
Coverage Amount			2,500,000	3,500,000
Premium for 35-year-old male			Rs. 70,414	Rs. 19,145
Years client pays premium			45	35
Policy Pays Out			At death or age 80	At death, if death during term of policy
Products Purchased			1) Rs. 2,500,000 in life insurance at Rs. 70,414 per year, policy matures in 45 years	1) Rs. 3,500,000 term insurance policy at a cost of Rs. 19,145 per year 2) Savings deposit of (70,414-19,145)=51,269 per year for years 1-35 3) Savings deposit of Rs. 70,414 for years 36-45
Policy Year	*Age*	*Year*	*Whole Payout / Maturity Value*[a]	*Term Payout (if any) + Savings*[b]
1	35	35	2,500,000	3,555,374
11	45	45	4,225,000	4,421,723
21	55	55	5,950,000	6,292,107
31	65	65	7,675,000	10,330,124
41	75	75	9,400,000	15,547,902
45	79	80	10,090,000	21,402,269
Panel B: ICICI Prudential Life Insurance				
Specific Plan Example			*ICICI Pru-Whole Life Non-Linked*	*ICICI Pru iCare Term Policy*
Coverage Amount			100,000	2,050,000
Premium for 35 Year Old Male			15,140	3,409
Years client pays premium			10	10
Products Pruchased			Rs. 100,000 life insurance at 15,140 per year, policy matures after ten years	Rs. 2,050,000 term insurance policy at a cost of Rs. 3,409 per year, with savings deposit of Rs. (15,140-3,409)=11,731 for ten years
Policy Year		*Age*	*Whole Payout / Maturity Value*[c]	*Term Payout (if any) + Savings*[d]
1		35	201,600	2,062,669
6		40	209,600	2,142,942
10		44	216,000	2,233,537
Policy Ends		45	137,782	198,220

Notes: This table compares endowment/whole policies to term policies offered by two leading insurance companies in India, the Life Insurance Corporation of India and ICICI Pru Life. a) The payout amount is equal to the coverage amount, 2,500,000, and grows by the amount of the bonus (6.9% of the face value, or Rs. 172,500) each year. The policy has historically paid a bonus rate of 6.9%. Bonuses are not compounded. The value may be calculated in Excel as =2500000*(1+.069(year-1)), where year is the policy year. b) For policy years 1-35, the amount available at death is the policy coverage, Rs. 3,500,000, plus the savings account balance, which receives a Rs. 51,629 annual deposit (the difference between whole and term premium) for the first 35 years, and a Rs. 70,414 from year 36 through 45. The savings balance accumulates at 8% per year, which is the government-guaranteed rate offered through National Savings Certificates.The value at any given year may be calculated in Excel as "=IF(year < 35,3500000,0)-FV(8%,year,51272,0,1)-IF(year > 35,-FV(70417,0,1))". c) These amounts are provided in a company brochure, "ICICI Pru Whole Life Non-Linked Life Insurance Plan." d) Coverage is Rs. 2,050,000 plus value of accrued savings, calculated in Excel "=FV(8%,year,11731,0,1)", and equal to 1.08*FV(8%,10,11731,0,1) in year 11.

Table A2: Text of Treatments

Quality of Advice Experiment		
Bias treatment	Bias towards term	Bias towards whole
Text of statement	“I have heard from [source] that term insurance is a really good product.”	“I have heard from [source] that whole insurance is a really good product.”
Needs treatment	Need term	Need whole
Text of Statement	“I am worried that if I die early, my wife and kids will not be able to live comfortably or meet our financial obligations. I want to cover that risk at an affordable cost.”	"I want to save and invest money for the future, and I also want to make sure my wife and children will be taken care of if I die. I do not have the discipline to save on my own.”
Competition Treatment	High Competition	Low Competition
Competition	"I have already met with some providers, but would like to learn more about the specific products your firm offers so I can make a comparison" [source] in bias statement is “another agent”	"What are the different products that you offer?" [source] in bias statement is “friends”
Disclosure Experiment		
Knowledge treatment	Knowledge of Commissions “Can you give me more information about the commission charges I’ll be paying?”	No Knowledge No mention of commission charges
Sophistication Experiment		
Sophistication treatment	Sophisticated “In the past, I have spent time shopping for the policies, and am perhaps surprisingly somewhat familiar with the different types of policies: ULIPs, term, whole life insurance. However, I am less familiar with the specific policies that your firm offers, so I was hoping you can walk me through them and recommend a policy specific for my situation.”	Unsophisticated “I am aware of the complexities of Life Insurance Products and I don’t understand them very much; however I am interested in purchasing a policy. Would you help me with this?”

Table A3: Tests of Randomization

	Quality of Advice						Disclosure		Sophistication	
	Bias Treatment		*Suitability Treatment*		*Shopping Behavior Treatment*					
	Term	Whole	Term	Whole	Friend	Agent	Inquiry	No Inquiry	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Government Underwriter	0.82	0.79	0.79	0.82	0.80	0.82	0.50	0.55	0.72	0.71
LIC Underwriter	0.74	0.73	0.71	0.76	0.73	0.74	0.48	0.52	0.68	0.70
Agent is Male	0.84	0.84	0.86	0.83	0.84	0.84	0.88	0.93	0.89	0.93
Agent Dress (1-simple to 5-sophisticated)	4.07	4.03	4.05	4.05	4.11	3.98 **	3.60	3.53		
Physical Quality of Office (1-low to 5-high)	4.18	4.19	4.13	4.23	4.19	4.18	3.57	3.69		
Audit Location										
Agent Home	0.19	0.18	0.17	0.19	0.16	0.21	0.17	0.10 *	0.11	0.14
Agent Office	0.13	0.11	0.12	0.12	0.13	0.11	0.69	0.75	0.53	0.58
Auditor Home	0.00	0.02 **	0.01	0.01	0.01	0.01	0.06	0.05	0.04	0.03
Auditor Office	0.01	0.01	0.01	0.02	0.02	0.01	0.00	0.04 **	0.18	0.18
Other Venue	0.67	0.68	0.69	0.66	0.69	0.66	0.08	0.06	0.15	0.07 *
Audits	280	277	258	299	294	263	143	114	114	103

Notes: Table A3 presents summary statistics from our three experiments disaggregated by treatment. They are used to perform randomization checks, univariate regressions (with standard errors clustered by date * auditor) of the treatment on each independent variable. Significant differences are denoted by asterisks. Quality of Advice refers to the experiment where we varied the auditor's needs (suitability), beliefs (bias), and the source of their beliefs, competing agent or friend (competition). As mentioned in Table 2, Disclosure refers to the experiment where we varied whether the auditor made a disclosure inquiry, both before and after the mandatory disclosure law, to test the law's effect on agent behavior. Sophistication refers to the experiment where we varied the auditors' expressed financial sophistication. Note that "Government Underwriter" includes LIC, State Bank of India (SBI), United Trust of India (UTI), and the Industrial Development Bank of India (IDBI). Standard errors, clustered at the auditor-calendar day level, in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A4: Premiums and Replacement Income Ratios by Recommendation

Type of Recommendation	*# Audits*	*Premium*	*Years Income Replacement*
Only Term	16	19,742	15.2
Any Term	63	29,300	11.2
Only Whole	446	28,381	2.9
Any Whole	495	28,798	3.4

Notes: The table shows the amount of premium recommended and the number of years of replacement income the coverage amount represents (based on a monthly income of 15,000 Rs the amount our auditors conveyed in the audits). We drop one outlier observation due to a very large premium; including this outlier increases the size of the difference between term vs. whole coverage recommendations.

Table A5: Results of Agent Survey

Panel A: Vignette and Role Play Responses

Recommendation Without Commissions Motivation		
	Needs Term	Needs Whole
Vignette		
Recommends Term	69%	22%
	Paired t-test two-sided p-value=.0001	
Role Play		
Recommends Term	38%	28%
	Paired t-test two-sided p-value=.37	

Panel B: Survey on Typical Recommendation

	Recommendation Includes Whole		*Recommends Exclusively Whole*	
	First	Final	First	Final
Always	50%	31%	28%	6%
Often	19%	28%	38%	44%
Sometimes	3%	9%	6%	16%
Rarely	9%	6%	9%	9%
Never	19%	25%	19%	25%

Panel C: Survey on Agent/Client Interaction

Agent Asks/Knows About:		*Customer Mentions:*	
Age	100%	Financial Welfare	59%
Marital Status	94%	Savings Behavior	63%
Young Dependents	88%	Specific Product	47%
Salary	100%	Competition	78%
Savings Account	69%	Level of Knowledge/ Sophistication	31%

Notes: The table above reflect the results of a survey of 32 life insurance agents in Ahmedabad conducted in 2014. To create the sample, we used a similar sampling method to our audit study, drawing upon agents listed on popular websites (justdial and asklaila) asking them to sit down with a surveyor for 30 minutes regarding their experiences and perspectives with life insurance sales. Panel A compares product recommendation responses by each agent to two different situations regarding customer need (term vs. whole) paralleling our audit treatments. In both situations, we ask agents to imagine that the customer is their cousin in another city who will be purchasing life insurance from his employer and the agent therefore will receive no commission (we explicitly mention this and the fact that they agent should just give "the best advice possible"). The vignettes are similar to the role-playing - the two major differences are that i) the role-playing scripts mirror our scripts exactly whereas the vignettes identify the same general characteristics but with slightly different phrasing and ii) the role-playing has our auditors explictly pretend to be the cousin and read from the script whereas in the vignettes, the surveyors acts as a third-party and describes the hypothetical cousin's general situation. Panel B documents agent responses when asked how often their first (initial) and final product recommendations to customers include whole (left table) or are exclusively whole (right table). Panel C documents the percentage of agents who said they always "make sure to know the following customer attributes before making a product recommendation," and the percentage of agents who said they always, often, or sometimes have customers who volunteer the indicated attributes during the first meeting.

Table A6: Effect of Sophistication on Quality of Advice

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Recommended Any Term		Recommended Only Term		Ln(Coverage)		Ln(Premium)	
Sophisticated	0.10	0.10 *	0.02	0.03	0.22	0.21	-0.03	-0.06
	(0.06)	(0.06)	(0.05)	(0.05)	(0.14)	(0.13)	(0.08)	(0.09)
Government Underwriter		-0.08		-0.09		-0.25		0.05
		(0.06)		(0.06)		(0.17)		(0.11)
Audit Location								
Agent Home		0.10		-0.01		0.21		-0.21
		(0.11)		(0.06)		(0.19)		(0.19)
Auditor Home		0.02		-0.11 **		0.32		0.03
		(0.14)		(0.05)		(0.29)		(0.14)
Auditor Office		0.13		0.13		0.20		-0.17
		(0.10)		(0.09)		(0.16)		(0.17)
Other Venue		-0.01		0.06		-0.17		-0.28
		(0.09)		(0.09)		(0.24)		(0.20)
Auditor Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Dep. Var. Mean	0.22	0.22	0.14	0.14	13.07	13.07	9.68	9.68
Observations	217	217	217	217	209	209	209	209

Notes: Table A6 reports regressions where the dependent variables are the (exclusive) presence of term insurance in the agents recommendation. The main independent variable is whether or not the audit is part of the sophisticated treatment group. Sophistication was signaled to the agent by a script in which auditors mentioned how they had been shopping around and were aware of the different types of policies (such as ULIPs, term, etc.) In unsophisticated audits, auditors acknowledged that life insurance was complex but admitted to knowing very little about the types of policies. Dummy variables for auditor identity, venue location, and whether the government purveyed/underwrote the insurance policy are also included in the even-numbered columns.

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