Understanding the Incentives of Commissions Motivated Agents: Theory and Evidence from Indian Life Insurance

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Abstract

We conduct a series of field experiments to evaluate two competing views of the role of financial intermediaries in providing product recommendations to potentially uninformed consumers. The first argues that financial intermediaries may provide valuable product education, helping consumers decide which of many complicated products is right for them. Even if commissions influence intermediary recommendations, consumers are sufficiently sophisticated to discount advice. The second, more sinister, view, argues that intermediaries recommend and sell products that maximize the agents well-being, with little regard to the need of the customer. Audit studies in the Indian insurance market find evidence consistent with the second view: agents recommend a product that provides them high commissions, though it is strictly dominated by alternative products. Consumers demonstrating lower levels of sophistication are more likely to be offered the wrong product. Agents also appear to cater to the initial preferences of consumers even those initial preferences are for products that are not suitable for the consumer. Finally, we exploit a natural experiment that occurred during our audits to test how disclosure requirements affect product recommendations. We find that requiring disclosure of commission levels makes agents less likely to recommend the product for which disclosure is required.

1 Introduction

This paper examines the market for life insurance in India. We study how commissions motivate agents to provide advice and to reveal information about financial products, and how consumers use (or misuse) this information in making financial decisions. This topic is timely given the financial crisis and related proposals for strong regulation of agent behavior in retail finance. Mortgage brokers, for example, have been widely blamed for making loans that were too large for low income borrowers during the height of the recent housing boom.

We focus on the market for life insurance in India for the following reasons. First, given the complexity of life insurance, consumers likely require help in making purchasing decisions. Second, popular press accounts suggest that life insurance agents in India engage in unethical business practices. Agents are often accused of promising unrealistic returns or suggesting only high commission products.[1] Third, the industry is large, with approximately 44 billion dollars of 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 2009). Fourth, approximately 90 percent of insurance purchasers buy through agents, thus agent behavior in this market has large ramifications. And lastly, the policy environment for household financial products is changing rapidly in India, and better information on how these markets work is crucial for making optimal policy.

Commissions motivated sales agents are of particular importance in emerging economies where a large fraction of the population currently does not have access to household financial services such as life insurance, mutual funds, and bank accounts. Supporters of commission-based distribution often argue that commissions give brokers the incentive to educate households. Emerging markets, in particular, have a large number of newly middle-class households without any prior experience with such financial products. Systematic empirical evidence is needed to inform the policy debate about whether commissions motivated agents are suitable for encouraging the adoption of complicated household financial products.

This project consists of three related experiments. All of these experiments use an audit

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[1]See for example, "LIC agents promise 200% return on '0-investment' plan," Economic Times, 22 February 2008.

study methodology, in which we hired and trained individuals to visit life insurance agents, express interest in life insurance policies, and seek recommendations. The goal of the first set of audits was to test whether, and under what circumstances, agents recommend products suitable for consumers. In particular, 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 always better off purchasing a term life insurance product than whole life. In section II, we detail how a consumer can combine a savings account with a term insurance policy, providing four times more investment value over their life. In the first part of the study, our auditors would visit agents, explaining that they are primarily interested in risk coverage, not investment, and ask for a suitable product.

A range of evidence suggests that individuals with low levels of financial literacy make poor investment decisions (Lusardi and Mitchell, 2007). One of the most frequently advocated policy responses is to provide individuals with financial advice. This solution makes sense only if those with limited literacy receive good advice. In this first set of audits, we tested whether advice provided by agents varies by the level of sophistication her clients demonstrate. In fact, we find that less sophisticated agents are more likely to receive a suggestion for whole insurance, suggesting that agents discriminate in the types of advice they provide. We also tested whether agents provided better advice to prospective buyers who signaled that they were "shopping around"; Overall, the evidence from the first set of 229 audits suggests that life insurance agents provide bad advice.

In a second set of audits we test whether agents will recommend products contrary to the initial preferences of the customer. We are interested in testing whether life insurance salesmen will attempt to de-bias customers to increase the probability of making a sale. We randomize both the auditor's initial preference over whole versus term and a characteristic about the auditor that makes whole or term the more suitable product.[2] Thus, we have some treatments where the customer has an initial preference for term insurance but where insurance is actually the more suitable product (and vice versa). We find that in these treatments agents cater approximately equally to both the initial preferences of the customer and the actual needs of the customer; this is true even when the agent has an incentive to de-bias the customer because the commission on the more suitable product is *higher*. We view this result as important because it suggests that agents have a strong

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[2]Specifically, one set of auditors states that they are looking for insurance that will help them to save because they have a commitment savings problem. For these customers, whole insurance may be a good option. Another set of audits state that they are primarily looking for risk coverage and are not interested in saving through insurance.

incentive to cater to the initial preferences of customers in order to make sales; contradicting the initial preference of customers, even when they are wrong, does not seem to be a good sales strategy. Thus, salesmen are unlikely to de-bias customers if they have strong initial preferences to products that may be unsuitable for them.

In the third set of audits 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. In theory, once consumers understand the incentives faced by agents, they will be able to filter the advice and recommendations, improving the chance they choose the product best suited for them, rather than the product that maximizes the agents commissions. 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. We have data on 140 audits conducted before July 1, and 118 audits conducted after July 1.

This paper speaks directly to the small, but growing, literature on the role of brokers and financial advisors in selling financial products. This literature is based on the premise that, in contrast to the market for consumption goods such as pizza, buyers of financial products need advice and guidance both to determine which product or products are suitable for them, and to select the best-valued product from the set of products that are suitable.

The theoretical literature can be, in some sense, divided into two strands: one posits that consumers are perfectly rational, understand that incentives such as commissions may motivate agents to recommend particular products, and therefore discount such advice. A second set of literature argues that consumers are subject to behavioral biases, and may not be able to process all available information and make informed conclusions.

Bolton at al. (2005) develops a model in which two intermediaries compete, each offering two products, one suitable for one type of clients, the other for the other type of clients. While intermediaries have an incentive to mis-sell, competition may eliminate misbehavior. Indeed, while one might presume that in a world with competition, in which consumers can rationally discount biased advice, commissions to agents would not play an important role in consumer decisions, this is not necessarily so. Inderst and Ottaviani (2010) show that even in a fully rational world, producers of financial products will pay financial advisors commissions to promote their products.

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Del Guerico and Reuter (2010) argue that sellers of mutual fund products in the US that charge high fees may provide intangible financial services which investors value.

A second, more pessimistic, view, argues that consumers are irrational, and market equilibria in which consumers make poorly informed decisions may persist, even in the face of competition. Gabaix and Laibson (2005), develop a market equilibrium model in which myopic consumers systematically make bad decisions, and firms do not have an incentive to debias consumers. Carlin (2009) explores how markets for financial products work in which being informed is an endogenous decision. Firms have an incentive to increase the complexity of products, as it reduces the number of informed consumers, increasing rents earned by firms. Inderst and Ottaviani (2011) present a model where naive consumers, where naivete is defined as ignoring the negative incentive effects of commissions, receive less suitable product recommendations.

The theoretical work is complemented by a small, but growing, empirical literature on the role of competition and commissions in the market for consumer financial products. In a paper that precedes this one, Koerner, Mullainathan, and Schoar (2010) conduct an audit study in the United States, examining the quality of financial advice provided by advisors. Woodward (2008) demonstrates mortgage buyers in the U.S. make poor decisions while searching for mortgages. A series of papers (e.g. Choi et al 2009) demonstrate that consumers fail to make mean-variance efficient investment decisions, paying substantially more in fees for mutual funds, for example, than they would if they consistently bought the low-cost provider. In work perhaps most closely related to this paper, Bergstresser et al. (2009) look at the role of mutual fund brokers in the United States. They find that funds sold through brokers underperform those sold through other distribution channels, even before you account for substantially higher fees (both management fees and entry/exit fees). Buyers who use brokers are slightly less educated, but by and large similar to those who do not. They do not find that brokers reduce returns-chasing behavior.

In the next section we describe the basic economics of the life insurance industry in India including detailed calculations on why whole insurance policies are dominated by term policies and economic theories of why individuals might still purchase whole policies. In Section III we present a simple model of communication between life insurance agents that motivates the design of our audits. Section IV presents the experimental design and Section V presents our results. Section VI concludes.

2 Term and Whole Life Insurance in India

Life insurance products may be complicated. In this section, we lay out key differences between term and whole life insurance products, and demonstrate that the insurance offerings from the largest insurance company in India violate the law of one price, as long as an individual has access to a bank account. Rajagopalan (2010) conducts a similar calculation and comes to the same conclusion that purchasing term insurance and a savings account typically strongly dominates purchasing whole or endowment insurance plans.

We start by comparing two product offerings from the Life Insurance Corporation of India (LIC). For many years, LIC was the government-run monopoly provider of life insurance. We consider the LIC Whole Life Plan (Policy #2), and LIC Term Plan (Policy #162), for coverage of Rs. 500,000 (approximately USD $12,000), for a 34 year old male with no adverse health conditions, commencing coverage in 2010.

For the whole life policy, such a customer would make 47 annual payments of Rs. 13,574 each (ca. $260 at 2010 exchange rates). The policy pays Rs. 500,000 if the client dies before age 80. In case the client survives until age 80, which would be the year 2056, the product pays a maturation benefit equal to the coverage amount (Rs. 500,000). In addition, the client may receive "bonus" payments each year, which the insurance company will declare if profitable. Unlike interest or dividends, these bonus payments are not paid to the client directly. Rather the bonus is added to the notional coverage amount, paid in case of death of the client, or, at maturity. The insurance company does not make any express commitment as to whether, and how much, bonus it will offer, but historically has offered bonuses of approximately 2-3 percent. We assume in our analysis that the bonus will be three percent each year the client is alive.

A critical point to be made here is that the bonus is not compounded.[3] Rather, the bonus added is simply the amount of initial coverage, multiplied by the bonus fraction. For example,

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[3]It is somewhat surprising that an insurance company has not entered this market and won a substantial amount of business by offering a whole insurance product that does pay compounded bonuses. In fact, there are some whole life products that pay a compounded bonus (i.e. the bonus rate is applied to both the sum assured amount plus all previously accumulated bonus); thus, it is not the case that the insurance industry is unaware that consumers might like these products. Rather, it seems that it is not possible for an insurance company to win substantial amounts of business by aggressively selling whole products that pay compounded bonuses. 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 highest sales incentives will sell, and any particular insurance firm will have an incentive to pay the highest commissions on the highest profit products. A formal model of this is beyond the scope of this paper, and we leave it to future research.

if the company declares a 3% bonus each year, the amount of coverage offered by the policy will increase by .03*500,000=Rs. 15,000 each year. Thus, after 47 years, when the policy matures, its face value will be Rs. 500,000 + 47*15,000=Rs. 1,205,000.

In contrast, if the policy premium grew at 3 percent per year (which would happen if the bonus payments were compounded), the policy would have a face value of Rs. 500,000*1.03^47, or Rs. 2,005,947, roughly 2.7 times higher. Stango and Ziman (2009) present evidence from psychology that individuals have difficulty understanding exponential growth, suggesting households may not truly appreciate the economic importance of the fact that the bonus payments are not compounded.

In Table 1, we compare the relative value the term versus life insurance, which costs Rs. 13,574 per year for 25 years, by constructing a "replicating portfolio" which includes bank savings and term life insurance, and provides equivalent coverage to the Rs. 500,000 whole life policy, and costs exactly the same amount as the whole life policy. Specifically, we consider a term life insurance plan that offers coverage of Rs. 500,000, for a twenty-five year term. As of April 2010, such a policy required an annual payment of Rs. 2,507. Compared to purchasing the whole life policy, a term buyer would thus pay Rs. 13,754-2,507=11,067 Rs. less for the first twenty-five years, and 13,754 Rs. less for each year from 26 to 47 years in the future. The replicating portfolio places these savings in term deposits at a government-owned bank, paying an assumed interest rate of 8 percentage points.

By the time term policy expires (2035), both the whole policy and replicating portfolio (by now, containing only the savings account, as the term policy will have expired without value) will have face values of Rs. 875,000 , though of course the savings account will be much more liquid and therefore more valuable. From 2035 until 2056, the term policy will continue to grow at 8% compound interest, while the whole life policy will accrue 3 percent (non-compounded) bonuses.

One commonly made argument for whole life insurance is that it provides protection for the individual's whole life, and thus eliminates the need to purchase new term insurance plans in the future. If there is substantial risk that future term insurance premiums might increase due to increases in the probability of death, then term insurance might be seen as more risky than whole insurance. However, this argument does not affect our replication strategy, because the term plus savings plan does *not* require the individual to purchase another term insurance policy 25 years

later.[4] The individual has saved up enough in the savings account to provide self-insurance after 25 years, which is equivalent to the amount of insurance that the whole life policy is providing.

How much more expensive is the term policy? Prior to maturity, the comparison is difficult, because the savings account is liquid, while the insurance policy is not. However, on the buyer's 80th birthday, the savings account will have a balance of approximately 5.1 million Rs., which is 4.2 times higher than the maturity value of the life insurance product.

Thus, for an equivalent investment, the buyer receives four times as much benefit if she purchase term plus savings, relative to whole. We are not aware of many violations of the law of one price that are this dramatic. A benchmark might be the mutual fund industry: $1 invested in a minimal fee SP500 fund might earn 8% per annum, and therefore be worth $21 after 47 years. If an investor invested $1 in a "high cost" mutual fund that charged 2% in fees, the value after 47 years would be 10.3, or about half as large. Thus, the markup of life insurance is in some sense twice as large as the mark-up on the highest cost index funds.

It is interesting to note that life insurance agents typically do not conduct the type of calculations we have just discussed to persuade clients towards or away from term insurance policies. They tend to rely on general statements about the differences between products. For example, two agents claimed that term insurance is not for women. Table 8 presents some anecdotes on particularly outlandish claims real life insurance agents made during our audits to persuade clients towards whole policies away from term.

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 can serve as a commitment device to save **?**. The structure of whole life plans impose a large cost in the case where premium payments are lapsed, and thus consumers that are sophisticated about their commitment problems may prefer saving in whole life plans versus standard savings accounts where there are no costs imposed when savings are missed. In particular, the LIC Whole Insurance Plan No. 2 discussed in the previous section returns nothing if premiums for less than three years are paid. If premiums for three or more years are paid, the plan guarantees only 30%

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[4]Cochrane (1995) discusses this issue in the context of health insurance proposes an insurance product that also insures against the risk of future premium increases due to changes in risk.

of the total value of the premiums paid (excluding the first year of premiums) will be returned to the customer.[5]

There are other savings products in the Indian context, however, that offer similar commitment device properties without the large first year commissions. Public provident fund accounts require a minimum of 500 rs per year to be contributed and allow the saver no access to the money until 7 years after the account is opened. If a saver does not contribute the 500 rupees in a particular year the account is consider discontinued, and the saver has to pay a 50 rupee fine for each defaulting year plus the 500 rupees that were missed as installments. The public provident fund could be used by a saver to obtain some commitment device features. It would also be easy for a whole life insurance company to offer a commitment savings account that had no insurance component; the fact that this product does not exist suggests that commitment savings demand is likely not the only reason individuals purchase whole life insurance. To determine the important of commitment savings device aspect, we designed some treatments where our auditor explicitly asks for risk coverage to protect his family. We find that even in those interactions approximately 60 percent of agents recommend whole insurance.

2.2 Whole Life Insurance in Competitive Equilibrium

We, and others, have argued that whole life insurance is dominated by term insurance for individuals who seek insurance mainly for risk coverage in the Indian context (i.e. they are not mainly looking for a commitment savings device). How can such a dominated product persist in competitive equilibrium? In this section we briefly speculate on possible explanations for this dominance. It is important to note, however, that in our empirical work we are primarily interested in understanding how commissions motivated agents provide advice given that a seemingly dominated product exists.

In the appendix we present a simple model, based on Gabaix and Laibson (2006), which provides one explanation for how a dominated financial product might exist in competitive equilibrium. In the model, demand for insurance products is a negative function of prices but also a positive function of commissions paid. The idea is that insurance firms can increase the demand for their product by providing commissions to agents to persuade and educate some individuals to buy

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[5]The LIC website, however, does state that it is possible that more than the guaranteed surrender value will be returned to the customer. However, it is not clear on exactly how this amount is determined.

insurance.[6] Firms can choose to offer whole insurance, term insurance, or both. Whole insurance is a strictly dominated product from the consumer's perspective, but consumers have heterogenous beliefs about the merits of term and whole insurance. 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.

We show that there is an equilibrium where two competing insurance firms will both choose to offer whole and term insurance plans, despite the fact that whole insurance is dominated by term insurance. Both firms earn zero profits in this equilibrium and pay large commissions. The intuition for this result is that if one firm deviates from this equilibrium and chooses to offer only term insurance instead, it is unable to pay as large commissions to convince people to purchase their term insurance instead of a competitor's whole insurance policy. Analogous to the result in Gabaix and Laibson (2006), a strategy of un-shrouding the whole policy does not work because selling the dominated term policy does not offer the margins necessary to pay large commissions.

We believe this model is a plausible explanation for a dominated product like whole insurance can persist in this market, but the goal of this paper is not to validate this model over other potential models. The purpose of the current paper is to take the existence of a dominated versus non-dominated financial product as given, and study the quality of advice provided by agents and potential mechanisms that lead to better advice.

3   Theoretical Framework

Our empirical work is motivated Inderst and Ottaviani present a theoretical framework on the quality of advice provided by commissions motivated sales agents. Their model has two types of consumers. One type of consumers are wary of the fact that commissions can bias the advice that agents provide. Another type of consumers do not recognize the fact that commissions can be used to bias the advice that financial product salesmen provide.

The Inderst and Ottaviani (2011) model provides an explanation for why whole insurance might persist despite the fact that it is dominated by term insurance. In particular, it may be

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[6]This seems like a reasonable assumption given that there are 2.4 million commissions motivated insurance agents in India and 434,000 insurance agents in the United States.

profitable for insurance companies to pay high commissions to agents (and therefore charge higher prices) for whole insurance products and sell them to consumers who are unaware that the commissions bias the advice that salesmen provide. In their language, whole insurance is an "advanced" product that consumers can be persuaded to purchase by a salesman who is motivated by commissions.

Our empirical work tests the following predictions of the Inderst and Ottaviani framework. We break these predictions down into two groups. The first set of predictions concerns the quality of advice provided by commissions motivated agents. Their framework predicts that unaware consumers will receive low quality advice; i.e. they will be encouraged to purchase an advanced product that has higher commissions but no real benefits to them. We test this by measuring the fraction of agents that recommend customers purchase term insurance, even in the case where the customer only wants insurance for risk protection (i.e. we attempt to remove any notion that the customer wants a commitment savings device).

The second test of predictions regards how regulation and competition may affect the quality of advice. Inderst and Ottaviani (2011) show 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 whether a natural experiment that

We test whether... Inderst and Ottaviani (2011) also show that increased competition amongst agents can improve the quality of advice. Lastly, their model predicts that individuals who are more sophisticated in that they are wary of the presence of commissions receive better advice.

In the last experiment described in this paper, we attempted to test whether a subtle signal of consumer sophistication would be enough to change the type of advice provided by the salesmen.

4   Experimental Design

4.1   Setting

In this section we describe the basic experimental setup that was common to the three separate experiments we ran in this study. All of the auditors used in our study are high school graduates and thus completed introductory training sessions on the life insurance industry and its seman-

tics; they learned for example the meaning of words such as "sum assured","term", "maturity", and "premium". Afterwards, the auditors were trained in the specific scripts they were to follow when meeting with the agents. Within the script, there was flexibility, but there were specific prompts/statements that the auditors were instructed to always include. Auditors memorized the script, particularly the key prompts, as they would be unable to use notes in their meetings with the agents. An exit interview form was created for data collection, whereby immediately after an audit was completed, the auditor would complete an exit interview form. Each auditor

The life insurance agents were identified via a number of different sources, most of which were websites. While these websites are national in scope, we filtered our search to life insurance agents in the two study cities, thus obtaining a list of possible agents to audit. We also included a small number of life insurance agents in our initial audits which our auditors physically identified in passing, as well as a partial list of LIC agents serving the our study city.

Auditors were instructed not to lie during any of the sessions, and all were given a cash bonus which they may use to purchase a life insurance policy from the agent of their choice upon the completion of the experiment. Interestingly, all of our auditors purchase term insurance after they received their cash bonus to purchase insurance [CHECK THIS].

In each experiment, treatments were randomly assigned to auditors, and auditors to agents. Note that because the randomization were done orthogonally/independently, this means that each auditor did not necessarily do an equivalent number of treatment and control audits for a given variable of interest (i.e. sophistication and/or competition). In the appendix we present summary statistics for each of the experimental treatments in each experiment, to show that the randomization did lead to balanced samples in each treatment. Since we were acquiring agents as we were conducting information, we randomized in batches as we proceeded. The auditors were given discretion to visit the agents in the order they felt would be more convenient. As they completed a batch, our research manager would give them new prospective agents to contact.

The listings of life insurance agents were not particularly high quality. Of the 930 agents for whom we obtained information, we were able to actually physically/telephonically contact 333 unique agents. That this low success rate does not harm our ability to test the effects of our various treatments, as our contact procedures were identical across treatments. While some agents were visited more than once, care was taken to ensure no auditor visited the same agent twice. Any

repeat visits were spaced at least four weeks apart, both to minimize the burden on the agents, and to reduce the chance the agent would learn of the study.

Experiment 1 was conducted in one major Indian city, and Experiments 2 and 3 were conducted in another major Indian city. Table ?? presents summary statistics across the three experiments we report results on this paper. Across the experiments, between 60 and 80 percent of the audits were conducted with agents who work for a government underwriter. The vast majority of these agents work for the Life Insurance Company of India (LIC), which is the primary state owned life insurance firm. This is consistent with LIC's market share, 66 percent of total premiums collected in 2010.

In Experiment 1, 68 percent of audits took place at locations other than either the agent or auditor's home or office. These other locations were typically a restaurant, cafe, railway or bus station, or public park. In Experiments 2 and 3, the majority of audits took place at the Agent's office. On average, each audit lasted about 35 minutes, suggesting these audits do represent substantial interactions between our auditors and the life insurance agents.

5 Quality of Advice

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 and consumers potentially incorrect beliefs about what the correct product is for them. As mentioned above, one possible explanation for agents recommending whole insurance is that they believe that most customers use life insurance as a commitment savings device. To examine this, we designed treatments to vary the agents perception of what the customer wanted to obtain from the life insurance product. For standardization purposes we refer to this variation as variation in customer needs. Each audit was randomized into two possible treatments. In one treatment, the agent states "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." We designed this treatment to signal that the consumer has a real need for the whole insurance plan. In other words, good advice under this treatment might plausibly constitute the agent recommending whole insurance. In the second sub-case, the auditor says "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." In this sub-case the auditor demonstrates a real need for term insurance. Good advice in this case constitutes the agent recommending a term product. By comparing these two treatments we can get a sense of how much of agents recommending whole insurance is a response to their beliefs that individuals want commitment savings devices.

We also randomized the customer's beliefs about what the correct product is for them. 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 may be a 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 whole insurance may be a good product for me. Maybe we should explore that further?" In addition to randomize the product that our auditors had heard may be good, we also randomized the source of that information. In one set of audits the source of the information was from another life insurance agent. In another set of audits, the source of the information was from a friend. The purpose of these treatments was to vary the amount of competition the agent faced before providing his advice.

Figure 5 presents a randomization check to see if there are important differences in the audits that were randomized into different groups. The first two columns compare audits that were randomized such that the auditor had either a bias for term (Column (1)) or a bias for whole (Column (2)).

Columns (3) and (4) present the pre-treatment characteristics of audits where the auditor was randomized into have a need for term (Column (3)) or a need for while (Column (4). Columns (5) and (6) present the pre-treatment characteristics of audits where the source of the bias was another agent (Column (5)) or a friend (Column (6)).

Table ?? presents our main results on how variation in the needs of customers and biases of customers affect the quality of financial advice.[7] Column (1) presents results on whether the agent's final recommendation included a term insurance policy. We find that agents are more likely are 10 percentage points more likely to make a final recommendation that includes a term insurance

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[7]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 source of advice treatments when we focus on how quality of advice might be improved.

policy if the agent 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 agent says they are looking for risk coverage. Both of these results are statistically significant at the 1 percent level. The interaction of these two variables is statistically insignificant. This suggests that agents do not respond substantially differently if a customer's beliefs are consistent with what they need out of an insurance product.

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. The auditor fixed effects are mostly insignificant. Auditor 1 is substantially more likely to receive a term insurance recommendation; however, this auditor conducted only 19 audits and our results are very similar if those audits are excluded.

Column (2) presents the same exact 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 must less strong 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 only purchase term insurance. Using a 95 percent confidence interval, we can rule out an effect size larger than ... We find that stating a need for risk coverage only causes a 1.6 percentage point increase in the probability that the agent will recommend a term insurance policy. This effect is not statistically significant at the 10 percent level. When the auditor both states that they need risk coverage and they have heard that term is a good product we find an increase of 5 percentage points.

Thus, comparing Columns (1) and (2) it appears that agents do respond to both the biases and needs of customers, however, they primarily do it by recommending term insurance products as an addition to whole insurance products. Agents appear to cater to the demands of customers by adding term insurance as an add on product to whole insurance products, instead of suggesting customers only purchase term insurance.

6   Improving Advice

The previous section presented four findings on the quality of advice provided Indian life insurance agents. First, despite the fact that we and others have shown that whole insurance can be dominated

by a package of term insurance plus a regular savings account, between 60 and 80 percent of audits with real life insurance salesmen result in customers being recommended term insurance. Second, we find that even when customers signal that they are most interested in term insurance and need risk coverage, still more than 60 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 and whole insurance makes sense for someone who is seeking risk coverage. Fourth, we find that the amounts of insurance recommended, conditional on stating that you need risk coverage, vary substantially across whether whole insurance or term insurance is recommended.

These results are consistent with the models of Inderst and Ottaviani, who show that commissions motivated salesmen will have an incentive to recommend more complicated, but unsuitable, products to customers who are not wary of the agency problems that commissions create. In the next section we turn to testing theoretical predictions on how advice might be improved. Given our experimental setup where we can observe the type of advice given, we focus on three predictions. First, increasing consumers awareness of commissions will reduce the tendency to recommend unsuitable products. Second, the threat of increased competition from another agent will reduce the recommendation of an unsuitable product. Third, agents will provide different advice to sophisticated versus unsophisticated consumers.

6.1   Improving Advice: Disclosure

On July 1, 2010, the Indian Insurance Regulator mandated that insurance agents must 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 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 was as other equity based investment products. The insurance regulator responded to these criticisms by increasing their oversight of the sales process of ULIPs including forcing agents to disclose commissions.

There are two specific features of this policy we emphasize before discussing our empirical

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results. First, it is important to note that the disclosure of commissions required on July 1st is in addition to a disclosure requirement on total charges that came into effect earlier in 2010. In other words, prior to July 1, agents were required to disclose the total charges (i.e. the total costs) of the policies they sell, but they were *not* required to disclose how much of those charges went to commissions versus how much went to the life insurance company. Thus, the new legislation requiring the specific disclosure of commissions gives the potential life insurance customer more information on the agency problem between himself and the agent, but does not change the amount of information on total costs. This allows us to interpret our results mainly as the effect of better information about agency versus just information about costs more generally.

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, there was no statement made about commissions.

Table ?? presents summary statistics on the two dimensions along which we are interested in studying. Columns (1) and (2) compare the audits that were conducted before and after the law change. Columns (3) and (4) compare the audits that were randomized into having the auditor mention their knowledge about commissions (or not). Columns (1) and (2) show that there are important differences in with whom these audits were conducted before and after the law change. In particular, post disclosure change audits were more likely to be conducted with government underwriters, more likely to be conducted with the Life Insurance Company of India, more likely to be conducted by Auditor 1, and more likely to be conducted by Auditor 4. These differences suggest that the results of pre-post comparisons must be interpreted with caution, and we discuss this further when we present the results. Columns (3) and (4) show that there are no major differences in the pre-treatment characteristics in comparing audits that were randomized into the different disclosure knowledge groups.

6.2 Did the Disclosure Requirement Change Products Recommended?

We first test whether audits conducted after the disclosure requirements were made public were less likely to result in the agent recommending a ULIP policy. Table **??** presents these results. The dependent variable in all specifications in this table takes a value of one if the agent 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, July 1st (our earliest post-disclosure audits occurred on July 2nd). The variable Disclosure Knowledge equals one where the client expresses awareness that agents receive commissions and zero otherwise. Finally, we control for whether the agent is from a government underwriter, Auditor fixed effects, and the location of the audit. We control for these variables because there were statistically significant differences across the the pre and post disclosure law audits (Table **??**).

Column (1) presents a regression of whether a ULIP was recommended on the Post Disclosure variable, the Disclosure Knowledge variable, their interaction, and a constant. Here we find that in the post period a ULIP product was 25 percentage points less likely to be recommended. This finding is consistent with the prediction that agents treat customers who are wary of commissions differently than those who are not, and that disclosure policy can make customers more aware. We do not find the randomized treatment of the auditor demonstrating knowledge of the commissions significant (Disclosure Knowledge), nor do we find the interaction to be significant.

This result that agents are less likely to recommend ULIP products in the post disclosure period must be interpreted with caution, however, as it is based on a pre-post comparison. There are important differences across the pre and post audits as shown in Table **??**. While we cannot fully rule out that omitted variables explain our results, Columns (2) attempts to provide some supportive evidence. In Column (2) we control for all the variables for which Table **??** showed that the pre and post audits differed along. Here we find that the post disclosure effect is approximately 6 percentage points smaller; however, the effect is still quite sizeable at 19 percentage points.

In Columns (3) and (4) we estimate the same model but focus either on audits only conducted with government underwriters (Column (3)) or only with private sector underwriters (Column (4)). We find that amongst government underwriters there is a 30 percent decrease in the likelihood of recommending a ULIP policy after the disclosure law change. Amongst private underwriters (Col-

umn (4)), we find there is also a negative point estimate, although the coefficient is not significant at standard levels. One possible explanation for this result is that government underwriters were more likely to comply with the disclosure mandate.

In terms of magnitudes, given the overall percentage of ULIP recommendations in this sample was 71 percent, the approximately 20 percent decrease in ULIP recommendations once disclosure commission became mandatory is an economically large effect.[8]

We do not find that audits where our agents showed knowledge of the new disclosure requirements are associated with lower levels of ULIP recommendations. The coefficient on the Disclosure Knowledge variable is small and statistically insignificant in all of the specifications shown here. In the "Disclosure Knowledge" treatment the auditor explicitly asked for more information about the commission levels; it is possible that asking about these commission levels had no effect because agents realized that commissions would have to be disclosed when they provided the illustration sheet of the policy. We also find no evidence that asking for commission information had a differential effect on whether a ULIP policy was recommended before and after July 1st.

Columns (3) - (6) are included in this table to provide a sense of what products agents substituted towards after the disclosure requirements were changed for ULIP policies. The dependent variable in Columns (3) and (4) take a value of one if a term insurance product was recommended and a value of zero otherwise. The coefficient on the Post variable in these columns shows that agents were not substantially more likely to recommend term insurance products after they were forced to disclose commissions on ULIP products. Columns (5) and (6) present the same specification, however the dependent variable equals one if a whole or endowment plan was recommended. Here we find that whole and endowment policies were approximately 20 percentage points more likely to be recommended after the policy change. Thus, the policy to disclose commissions on the high commission ULIP products seems to have led agents to recommend other high commission products as opposed to the lower commission term insurance.

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[8]In unreported regressions, we find that in the post period underwriters were approximately 20 percentage points more likely to recommend whole insurance type products. However, there was no change in their propensity to recommend term insurance products. Thus, it appears that the ULIP disclosure law change primarily led to substitution away from high commission ULIP products to high commission whole insurance products.

6.3 Improving Advice: Induced Competition Between Life Insurance Agents

In this section we discuss how competition amongst agents affects the quality of advice. One way agents may compete with each other is to offer better financial advice. Standard models of information provision suggest that competition amongst advice providers will lead to the optimal advice being given; customers will avoid salesmen who give low quality advice and thus in equilibrium on high quality advice will be given.

In any given interaction between an agent and a customer, it is likely that the agent perceives he has some market power, in that the customer would have to pay additional search costs to purchase from another agent. In this treatment we attempted to experimentally reduce the agent's perceived amount of market power by varying whether the customer mentions that they have spoken to another agent already. Audits randomized into the high competition treatment stated that they heard from another agent term (whole) might be a good product for them. Audits randomized into the low competition treatment state that they heard from a friend that term (whole) might be a good product for them.

The audits for which these data are based on are the same as those used Experiment 1. The specifications reported here are the same as those in Table **??**, but we now introduce a dummy variable 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 the induced competition does not seem to have an important effect on whether agents recommend term insurance as part of their package recommendation (Column (1)), or whether they recommend only term insurance. The interaction between the competition dummy variable and the bias and need variables are small and insignificant.

Table **??** presents the results on the effect of competition for different combinations of bias and need treatments. The dependent variable in the odd numbered Columns takes the value of one if the agent's recommendation included term insurance, and zero otherwise. The dependent variable in the even numbered columns take the value of one if the agent recommended only purchasing term insurance.

Columns (1) and (2) include audits where the auditor had a bias towards whole insurance, but stated they needed risk coverage. In these treatments the agent has the potential to "de-bias" the

auditor as their beliefs are inconsistent with their insurance needs. In Column (5) we find that the agent is substantially more likely to recommend term as a part of their package of recommendations under the high competition treatment. This suggests that agents are willing to compete against another agent when the competing agent has given advice that is inconsistent with the customer's needs. This result is consistent with the idea that agents do compete with each other by changing the type of advice they provide.

However, it is important to note that in Column (2) we find that the competition treatment does not have a significant effect on whether the agent recommends only term insurance. Thus, the induced competition only leads the agent to provide marginally better advice in the form of recommending term insurance as an add on to whole insurance.

Columns (3) and (4) include audits where the auditor had a bias towards term insurance, but stated to the agent that they needed a commitment savings device. Here we do not find that the induced competition leads to a significantly different probability of recommending term insurance. In theory, we should expect competition to increase the probability that the agent will recommend whole insurance as a way of competing against another agent who has given advice that is inconsistent with the customer's needs. One explanation for why we do not see a result here is that agents do not believe it...

Columns (5) and (6) include audits where the auditor was biased towards term insurance and stated they had a need for risk coverage. In Column (5) we find that the induced competition increases the probability that the agent will increase the probability that term insurance is recommended. In Column (6), where the dependent variable is equal to one if only term insurance was recommended, we find a marginally significant effect (10 percent level). In this case it appears that agents are more likely to agree with a competing agent than they are to agree with a friend's advice.

Columns (7) and (8) include audits where the auditor was biased towards whole insurance and had a need for a commitment savings device. We find the induced competition does not have an important effect in this treatment. There are no results presented in Column (8) as no agents recommended only term insurance when the auditor stated they had heard whole insurance was a good product and were looking for a way to save.

6.4 Improving Advice: Customer Sophistication

In this experiment we attempted to randomized the life insurance agent's perception of how sophisticated the customer is. Each audit was randomly assigned to have a sophisticated consumer or an unsophisticated consumer.

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?"

As mentioned earlier, endowment/whole life policies usually have larger commissions and thus are a more lucrative recommendation for the agent. Initial pilots yielded very few term recommendations. We therefore built into the auditors script several statements that suggest a term policy is a better fit for the client. Specifically, the agent expressed a desire to maximize risk coverage, and stated that they did not want to use life insurance as an investment vehicle.

We predict that individuals that are sophisticated about life insurance products will be more likely to receive truthful information from life insurance agents; agents internalize that sophisticated agents are not swayed by dishonest information, 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. Note that we designed our scripts so sophistication here only means that the potential customer is knowledgeable about life insurance products; both sophisticated and unsophisticated agents state that they have the same objective needs in terms of life insurance.

Table **??** presents a randomization check for the Sophistication experiment. The only statis-

tically significant different between the sophistication and non-sophisticated treatments is that the sophisticated treatments were about nine percentage points more likely to occur at other venues. Overall, the randomization in this experiment appears to be successful.

The results from the sophistication experiment, reported in **??**, provide some evidence in support of this prediction. 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 causes a nine percentage point increase in the likelihood that an agent includes term insurance as a part of their recommendation. This result is close to being significant at the 10 percent significance level (p-value .118). Thus, we do see that agents make some attempt to cater to sophisticated individuals by offering term insurance.

However, in Column (2), where the dependent variable takes a value of one if the agent recommended the auditor purchase only a term a insurance plan, we find there is no statistically significant effect of sophistication. Similar to the results in bias versus needs experiment, it appears that agents attempt to cater to more sophisticated types by mentioning term as a part of a recommendation. However, they do not completely switch to recommending only term insurance even to customers who signal sophistication.

7   Conclusion

A critical question facing emerging markets with large swathes of the population entering the formal financial system is how these new clients will receive good information on how to make financial decisions. Clearly, the private sector will be important in educating new investors and providing suitable products. Recent events in developed economies suggest that regulation 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 emerging markets where new investors have little experience with formal financial products to begin with.

First, we show that whole life insurance is economically inferior to a combination of investing in savings accounts and purchasing term insurance. Despite the large economic losses associated with investing in whole insurance we find that life insurance agents overwhelmingly encourage the

purchase of whole insurance. This is likely due to the larger commissions offered to agents for selling whole insurance.

We also find that government underwriters We view the government underwriter result as important: government underwriters, in particular the Life Insurance Company of India, enjoys a reputation as a very trustworthy firm because of its government backing. The fact that agents representing it were much less likely to recommend a suitable product seems inconsistent with the view that a government owned-firm includes social welfare in its objective function. However, given that we do not have exogenous variation in underwriter it is difficult to determine whether this primarily because government underwriters are different from private underwriters, or some other unobservable variable.

Third, we find that requiring disclosure of commissions on one particular product led to that product being recommended less but did not increase verbal disclosure of commission levels. This result is interesting in that it suggests that hiding information is an important part of life insurance agents' business, and that disclosure requirements can change the optimal strategy of agents. However, 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.

Second, we find that agents who demonstrate some knowledge of insurance products get better advice. Auditors that stated they had a deep understanding of insurance products were fourteen percentage points less likely to receive a recommendation of whole life insurance, a financially inferior product. This result suggests that the poor or ill-educated might be the most harmed by financial product agents.

Fourth, we find that agents cater to agents pre-conceptions of what the right product is for them as much (if not more) than to objective information about what the right product is. This suggests that, at least in our sample, agents do not actively try to de-bias customers away from their initial beliefs completely. This result holds even in the case where an agent has an incentive to de-bias the customer because a de-biased customer would purchase a higher commission product. These results suggest that de-biasing by commissions motivated agents may be an unfeasible policy option for getting individuals to make better financial decisions.

Overall, our results suggest that for life insurance, which is a large and important savings cum insurance product in India, that agents primarily work to maximize their commissions and play little role in educating the public about optimal decisions.

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Table 1: Comparing Whole and Term Life Insurance Policies

Panel A: Financial Products			
	LIC WHOLE LIFE	**LIC Term Life**	**Savings Account**
Policy Description	An individual purchases a policy for a pre-specified term, which promises a pre-specified benefit in case of death until the buyer turns 80. If the respondent lives until the age of 80, the policy matures, and the agent can obtain the coverage amount in cash. The coverage amount increases by Rs. 15,000 per year via bonuses.	An individual purchases a policy for a pre-specified term, which promises a pre-specified benefit in case of death during the term only. Once the policy expires, it has no residual value. The coverage amount is constant.	Fixed term deposit for five years or longer, State Bank of India
Plan Name	The Whole Life Plan	Anmol Jeevan - I	SBI Fixed Deposit
LIC Plan Number	Plan # 2	Plan # 164	
	POLICY TERMS	POLICY TERMS	Terms
Annual Rate	8%		
Bonus Percentage	3%		
Coverage Amount	500,000	500,000	
Interest Rate			8%
Age	34	34	
Payment Term (years)	47	25	
Yearly	13574	2507	
Total Nominal Payments	637,978	62,675	

Table 2: Comparing Whole and Term Life Insurance Policies

Panel B: Replicating Portfolio

| Calendar Year | Age | Policy Year | Premium Paid | Coverage | Premium Paid | Savings Deposit | Savings Balance |
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2010	34	1	13574	515000	2507	11067	11952.36
2011	35	2	13574	530000	2507	11067	24860.9088
2012	36	3	13574	545000	2507	11067	38802.1415
2013	37	4	13574	560000	2507	11067	53858.67282
2014	38	5	13574	575000	2507	11067	70119.72665
2015	39	6	13574	590000	2507	11067	87681.66478
2016	40	7	13574	605000	2507	11067	106648.558
2017	41	8	13574	620000	2507	11067	127132.8026
2018	42	9	13574	635000	2507	11067	149255.7868
2019	43	10	13574	650000	2507	11067	173148.6098
2020	44	11	13574	665000	2507	11067	198952.8585
2021	45	12	13574	680000	2507	11067	226821.4472
2022	46	13	13574	695000	2507	11067	256919.523
2023	47	14	13574	710000	2507	11067	289425.4448
2024	48	15	13574	725000	2507	11067	324531.8404
2025	49	16	13574	740000	2507	11067	362446.7477
2026	50	17	13574	755000	2507	11067	403394.8475
2027	51	18	13574	770000	2507	11067	447618.7953
2028	52	19	13574	785000	2507	11067	495380.6589
2029	53	20	13574	800000	2507	11067	546963.4716
2030	54	21	13574	815000	2507	11067	602672.9093
2031	55	22	13574	830000	2507	11067	662839.1021
2032	56	23	13574	845000	2507	11067	727818.5902
2033	57	24	13574	860000	2507	11067	797996.4375
2034	58	25	13574	875000	2507	11067	873788.5125
2035	59	26	13574	890000		13574	958351.5134
2036	60	27	13574	905000		13574	1049679.555
2037	61	28	13574	920000		13574	1148313.839
2038	62	29	13574	935000		13574	1254838.866
2039	63	30	13574	950000		13574	1369885.895
2040	64	31	13574	965000		13574	1494136.687
2041	65	32	13574	980000		13574	1628327.542
2042	66	33	13574	995000		13574	1773253.665
2043	67	34	13574	1010000		13574	1929773.878
2044	68	35	13574	1025000		13574	2098815.709
2045	69	36	13574	1040000		13574	2281380.885
2046	70	37	13574	1055000		13574	2478551.276
2047	71	38	13574	1070000		13574	2691495.298
2048	72	39	13574	1085000		13574	2921474.842
2049	73	40	13574	1100000		13574	3169852.75
2050	74	41	13574	1115000		13574	3438100.89
2051	75	42	13574	1130000		13574	3727808.881
2052	76	43	13574	1145000		13574	4040693.511
2053	77	44	13574	1160000		13574	4378608.912
2054	78	45	13574	1175000		13574	4743557.545
2055	79	46	13574	1190000		13574	5137702.069
2056	80	47	13574	1205000		13574	5563378.154
Final Value, 2056 in 2056 Rs.:				1205000			5563378.154

Notes: Panel A of this table gives the policy details for two standard life insurance policies, one whole and one term, providing Rs. 500,000 coverage to a 34-year old man. Panel B represents the flow of payments from the household to the insurance agency if she or he buys whole life , or if she or he buys term life and saves the difference between the higher whole premium and the term premium. The whole life insurance policy is replicated using a term policy and a savings account. The final line of the table indicates a households net asset position after paying Rs. 13,574 per annum, for a whole left policy (Column (5)), and for a term policy plus savings account (column (8)).

Table 3: Examples of False and Misleading Statements

The auditor cannot buy insurance because her husband is diabetic. No insurer will insure him.
The auditor, who is a muslim, should invest in a ULIP because his religion doesn't allow receiving interest income.
"Term insurance is not for Women."
"There is no such thing as a free look period. The agent should purchase insurance and then forget about it."
The agent, when asked for a term policy, offered an endowment life policy, describing it as term.
"Term plan is for people with high income and people who wants to hide their income."
"Term is not for people from middle class."
"Term is for people with high risk."
"Term is worthless."
"Term has low premium, so it is not a good product."
"Term is not for middle class."
"Term is only good for businessman."
"Term is difficult for women."
When asked about the "free look" period: "Once the policy is entered in the system, nothing can be done."
"Women don't get insurance more than 300000 Rs."
When asked about the "free look" period: "Policy can be cancelled only if one provided good reason for it."
"Jeevan Anand [an Endowment/Whole policy]'' is a ULIP."
"Term is offered to women who has government jobs."
"If you take a ULIP, you may take a loan against the value." In fact, it is prohibited to borrow against ULIPS.
"Term is for Government Employees."
"Term is for big businessman and people who invest in capital markets."

The above statements were noted by our auditors in the course of their meetings with Life Insurance agents.

Table 4: Summary Statistics On Three Field Experiments

		Experiment 1	Experiment 2	Experiment 3
Agent Works For:				
	Government Underwriter	0.80	0.60	0.71
	Life Insurance Company of India	0.73	0.62	0.69
Audit Location:				
	Agent's Home	0.18	0.18	0.12
	Agent's Office	0.12	0.63	0.55
	Auditor Home	0.01	0.05	0.03
	Auditor Office	0.01	0.01	0.18
	Other Location	0.68	0.12	0.12
Other Audit Details:				
	Audit Duration (minutes)	37.1	36.7	33.2
Recommendation:				
	Only Term	0.03	0.01	0.14
	Included Term	0.13	0.02	0.22
	Only Whole	0.74	0.97	0.74
	Included Whole	0.90	0.98	0.82
	Only ULIP	0.08	0.64	0.16
	Included ULIP	0.10	0.64	0.18
Observations		559	432	217

This table presents summary statistics from our three experiments. Experiment 1 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). Experiment 2 refers to the experiment where agents were forced to disclose the commissions they earned from selling ULIP products. Experiment 3 refers to the experiment where we varied the sophistication of the auditor.

Table 5: Experiment 1 (Bias,Needs,Competition): Randomization Check

Treatment Group: Bias = Term	Bias = Whole	Need = Term	Need = Whole	Source of Bias = Agent	S
Government Underwriter	0.82	0.79	0.79	0.82	
Life Insurance Company of India	0.74	0.73	0.71	0.75	
Auditor 1	0.04	0.03	0.03	0.04	
Auditor 2	0.30**	0.39	0.35	0.34	
Auditor 3	0.30	0.25	0.27	0.28	
Auditor 4	0.37	0.31	0.35	0.33	
Auditor 5	0.00***	0.01	0.00	0.00	
Agent Home	0.19	0.18	0.17	0.19	
Agent Office	0.13	0.11	0.12	0.12	
Auditor Home	0.00***	0.02	0.01	0.01	
Auditor Office	0.01	0.01	0.01	0.02	
Other Venue	0.67	0.68	0.69	0.65	
Observations	280	279	258	301	

*,**,*** indicates that treatments are statistically significantly different at the 1 percent, 5 percent, or 10 percent levels.

Table 6: Catering and Term Product Recommendations

Dep Var: Any Term	Only Term	
	(1)	(2)
Bias = Term	0.104***	0.021**
	[0.028]	[0.011]
Need = Term	0.121***	0.016
	[0.032]	[0.011]
(Bias = Term)*(Need= Term)	0.011	0.051*
	[0.055]	[0.029]
Government Underwriter	-0.124***	-0.019
	[0.039]	[0.020]
Auditor 1 Dummy	0.413***	0.085
	[0.122]	[0.068]
Auditor 2 Dummy	0.054	0.007
	[0.049]	[0.013]
Auditor 3 Dummy	-0.016	0.000
	[0.049]	[0.014]
Auditor 4 Dummy	0.072	-0.007
	[0.050]	[0.014]
Constant	0.064	0.011
	[0.058]	[0.022]
N	557	557
Adjusted R-squared	0.12	0.04

*** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level. Robust standard errors included in brackets. The dependent variable in Columns (1) and (3) is whether the agent recommended any term insurance policy. The dependent variable in Column (2) is whether the agent recommended only a term insurance policy. Columns (1) and (2) include the full sample.

Table 7: Improving Advice: Competition Amongst Agents

Bias:	Whole		Term		Term		Whole	
Need:	Risk Cover		Savings		Risk Cover		Savings	
Dep Var: Any Term	Only Term	Any Term	Only Term	Any Term	Only Term	Any Term	Only Term	N.A.
High Competition	0.138**	-0.030	0.011	-0.014	0.005	0.077*	-0.009	N.A.
	[0.064]	[0.022]	[0.049]	[0.021]	[0.075]	[0.046]	[0.022]	
Government Underwriter	-0.234**	0.026	-0.043	0.030	-0.273	-0.103	0.010	N.A.
	[0.093]	[0.019]	[0.071]	[0.020]	[0.100]	[0.072]	[0.010]	
Auditor 1	0.260	-0.009	(omitted)	(omitted)	0.317	0.267	0.404*	N.A.
	[0.190]	[0.009]			[0.284]	[0.273]	[0.225]	
Auditor 2	0.180***	0.011	-0.616***	-0.146	0.180**	0.049	0.024	N.A.
	[0.063]	[0.015]	[0.179]	[0.134]	[0.077]	[0.067]	[0.028]	
Auditor 3	0.096	-0.013	-0.624***	-0.126	(omitted)	(omitted)	0.006	N.A.
	[0.059]	[0.010]	[0.179]	[0.135]			[0.011]	
Auditor 4	0.210***	0.007	-0.620***	-0.128	0.294	-0.030	0.006	N.A.
	[0.076]	[0.021]	[0.178]	[0.135]	[0.088]	[0.056]	[0.011]	
Constant	0.097	0.005	0.741***	0.128	0.286***	0.118*	-0.010	N.A.
	[0.104]	[0.006]	[0.170]	[0.128]	[0.102]	[0.068]	[0.010]	
N	132	132	154	154	126	126	145	145
Adjusted R-squared	0.07	-0.02	0.14	0.02	0.10	0.04	0.23	.

*** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level. Robust standard errors included in brackets. The dependent variable in Columns (1) and (3) is whether the agent recommended any term insurance policy. The dependent variable in Column (2) is whether the agent recommended only a term insurance policy. Columns (1) and (2) include the full sample.

Table 8: Experiment 2 (Effect of Disclosure): Randomization Check

	After Ulip Disclosure Law	Before Ulip Disclosure Law	Disclosure Knowledge = 0	Disclosure Knowledge = 1
Government Underwriter	0.63***	0.44	0.50	0.56
Life Insurance Company of India	0.58***	0.44	0.49	0.52
Agent Home	0.19***	0.09	0.17*	0.10
Auditor Home	0.04	0.07	0.06	0.05
Auditor Office	0.01	0.02	0.00	0.03
Agent Office	0.67	0.75	0.68	0.76
Other Venue	0.09*	0.04	0.07	0.05
Auditor 1	0.00***	0.07	0.04	0.05
Auditor 2	0.31	0.34	0.37*	0.27
Auditor 3	0.26	0.34	0.27	0.33
Auditor 4	0.43***	0.26	0.32	0.35
Observations	108	147	142	113

*, **, *** indicates that treatments are statistically significantly different at the 1 percent, 5 percent, or 10 percent levels.

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* Significant at the 1% level. ** Significant at the 5% level. *** Significant at the 1% level. Robust standard errors included in brackets. The dependent variable equals 1 if a Ulip product was recommended and 0 if a non-Ulip product was recommended.

Table 9: Improving Advice: Effect of Disclosure

Sample: Full	Full	Govt Underwriter	Private Underwriter	
Post Disclosure	-0.25***	-0.19**	-0.30**	-0.07
	0.09	0.08	0.12	0.08
Disclosure Knowledge	0.05	0.02	0.07	0.00
	0.06	0.06	0.13	0.05
Post*Disclosure Knowledge	-0.06	-0.02	-0.06	0.07
	0.12	0.10	0.17	0.11
Government Underwriter		-0.42***		
		0.05		
Auditor 1		-0.26*	-0.52***	-0.02
		0.14	0.18	0.08
Auditor 2		-0.16	-0.35**	0.01
		0.13	0.17	0.04
Auditor 3		-0.16	-0.39**	-0.02
		0.15	0.18	0.06
Agent's Home		-0.07	-0.06	0.01
		0.12	0.15	0.03
Auditor's Home		-0.08	-0.29*	-0.03
		0.13	0.16	0.06
Auditor's Office		0.12	0.61***	-0.01
		0.15	0.16	0.04
Agent Office		-0.06	-0.04	-0.06*
		0.09	0.13	0.04
Constant	0.81***	1.24***	1.08***	1.03***
	0.05	0.15	0.18	0.05
Observations	257	257	134	123
Adjusted R-Squared	0.09	0.29	0.10	-0.06

Table 10: Experiment 3 (Effect of Sophistication): Randomization Check

	Sophisticated Treatment	Non-Sophisticated Treatment
	(1)	(2)
Government Underwriter	0.72	0.71
Life Insurance Company of India	0.68	0.70
Agent Home	0.11	0.14
Agent Office	0.52	0.58
Auditor Home	0.04	0.03
Auditor Office	0.18	0.18
Other Venue	0.16**	0.07
Auditor 1	0.07	0.12
Auditor 2	0.35	0.32
Auditor 3	0.36	0.33
Auditor 4	0.01	0.04
Auditor 5	0.01	0.01
Auditor 6	0.01	0.00
Auditor 7	0.19	0.18

*,**,*** indicates that treatments are statistically significantly different at the 1 percent, 5 percent, or 10 percent levels.

Table 11: Improving Advice: Effect of Sophistication on Agent Recommendations

Dep Var	Recommended Any Term	Recommended Only Term
	(1)	(2)
Sophisticated	0.09	0.03
	[0.06]	[0.05]
Government Underwriter	-0.07	-0.09
	[0.07]	[0.06]
Auditor 1	-0.13	-0.12
	[0.10]	[0.09]
Auditor 2	-0.03	-0.14
	[0.09]	[0.07]
Auditor 3	-0.04	-0.03
	[0.09]	[0.08]
Agent Home	0.08	0.09
	[0.17]	[0.07]
Agent Office	-0.01	0.11
	[0.14]	[0.05]
Auditor Office	0.13	0.22
	[0.16]	[0.08]
Other Venue	-0.07	0.11
	[0.16]	[0.09]
Constant	0.25	0.14
	[0.16]	[0.10]
Observations	217	217
Adjusted R-squared	0.01	0.05

* Significant at the 1% level. ** Significant at the 5% level. *** Significant at the 1% level. Robust standard errors included in brackets.

9 Appendix

9.1 Model of a Dominated Financial Product

We present a model with two types of consumers. Sophisticated consumers always understand the difference between whole and term life insurance. Further, sophisticated consumers know their own optimal amount of insurance, given prices, and cannot be convinced by a commissions motivated agent to purchase insurance. Thus, there is a fixed, exogenous number of sophisticated consumers, s, who want to purchase term insurance. Each of these individuals has the same demand function for term insurance $\alpha - p_t$.

Unsophisticated consumers, however, can be persuaded purchase a dominated product if there

is an agent that receives a high enough commission to persuade him. In particular, we assume that unsophisticated agents have demand for insurance as follows. If $\alpha - p \geq 0$ they will choose to spend an amount of $\bar{q}$ on insurance, independent of prices. In addition to this amount, they will purchase the amount $\alpha - p$ of additional insurance. A firm that pays commissions c will be able to sell $\bar{q}$ of whole or term insurance policy to c consumers. Thus, paying commissions allows the insurance firm to expand the number of consumers who will purchase insurance.

If the insurance firm is a monopolist, life insurance agents will work for that firm as long as commissions greater than zero are paid. If there are multiple firms, life insurance firms also must compete to get life insurance agents to sell their products. We assume life insurance agents can only sell the products of one insurance firm. This is consistent with Indian law, which requires that life insurance agents only sell the products of one insurance company. Further, the insurance firm pays a cost k per unit of either term insurance or whole insurance sold. This cost covers the administrative cost of managing each policy.

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 agents to sell whole and term insurance (c_w, c_t). In period two, consumers make decisions on how much whole and term insurance to purchase and insurance firms realize their profits.

9.2 Monopolist Insurance Company

We first discuss the case of a monopolist insurance firm, and then describe the impact of competition by studying how the equilibrium changes when two insurance firms are introduced. 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:

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

The first order condition with respect to price p_t is $\alpha - 2p_t + k + c_t = 0$, which can be simplified to $p_t = \frac{\alpha + k + c_t}{2}$. The first order condition with respect to c 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).

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 can be charged for term insurance to sophisticated consumers, and high prices and commissions can be charged to 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 increasing in commissions. The firm maximizes the total profit function from selling whole insurance to unsophisticated customers: $c(p - k - c)(\alpha - p)$. The first order condition with respect to price is $c\alpha - 2pc + ck + c^2 = 0$. The first order condition with respect to the commission level is $p\alpha - k\alpha - 2c\alpha - p^2 + pk + 2cp =$. 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 $\frac{1}{3}(\alpha - k)$. Note that when the firm chooses to sell term and whole insurance separately it charges higher prices, with higher commissions, for whole insurance. Total profits from the sale of whole insurance 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 unsophisticated types never buy this, and the chosen p^* and c^* 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 firm will never offer only whole insurance.

We now show that the monopolist firm will always choose to offer both products. 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 marginal cost k 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 profits 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 $\frac{\alpha - k}{2} > s$. Note that this is the same commission 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 at different commissions and prices versus only term insurance being offered.

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 profits from unsophisticated consumers when only term insurance is offered are $[\frac{1}{3}(\alpha - k - 2s) - \frac{1}{3}(\alpha - 2s)][\alpha - \frac{1}{3}(2\alpha - s)]$. 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.

9.3 Two Competing Insurance Companies

We now consider 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) (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 assumption that firm i obtains the full market s if $p_i < p_j$ (and vice versa). For whole insurance, consumers can be influenced to purchase both by higher commissions and lower prices. We assume

that agents will only want to work for the insurance firm that pays the highest commissions. Thus, the firm that pays the highest commissions will be the only firm with life insurance agents, and therefore the only firm that can sell whole insurance. If both firms choose the same commissions amount, they split the market in half.

We first solve for firm i's optimal behavior given firm js 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 whole insurance.

Suppose firm j only offers term insurance at price $p_{j,t}$ with commissions $c_{j,t}$. Note that firm j can sell term insurance to both sophisticated and unsophisticated consumers in this case. We show that firm i's optimal response is to offer both term *and* whole insurance. The maximum price firm j can choose is α as prices above that would yield negative demand from each consumer. The maximum commission firm j can choose is $\alpha - k$; given the maximum possible price of α setting commissions greater $\alpha - k$ implies the insurance firm will lose money on each unit sold. First, suppose firm j offers a commission on term insurance that is less than $\alpha - k$. Then, firm i can enter and pay commissions $c_{j,t} + \epsilon$, where ϵ is a small positive number, win the market for unsophisticated customers and sell them whole insurance to make positive profits. Thus, there cannot be an equilibrium where both firms only offer term insurance and pay commissions less than $\alpha - k$.

Now, suppose firm j sells term insurance and pays commissions equal to $\alpha - k$. This means firm j also must charge a price on term insurance of $p_{j,t} = \alpha$ to at least break even. In this case, firm i can win the market for term insurance by charging commissions on term insurance $c_{j,t} - \epsilon$, and splitting unsophisticated customer demand by offering whole insurance prices equal to α and commissions equal to $\alpha - k$. Thus, there can be no equilibrium where both firms choose only to sell term insurance.

Now suppose firm j offers both term and whole insurance, with zero commissions on term insurance, $c_{j,w}$ commissions on whole insurance, and prices $p_{j,t}$ and $p_{j,w}$ respectively. 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 the marginal cost of providing a term insurance product.

Competition in the market for whole insurance gives us that $c_{i,w} = c_{j,w} = \alpha - k$ and $p_{i,w} = p_{j,w} = \alpha$. A firm will never charge a price higher than α because they would then lose money on every unit sold as individual demand is $\alpha - p$. Also, a firm can never charge a commission less than $\alpha - k$ because the other firm can increase their commission to $\alpha - k$ and win the entire market. In this equilibrium firms pay out all of the revenue they earn, beyond the cost of servicing policies k, towards commissions. Firms make no profits, as in the Bertrand model, however both products will be offered despite the fact that term insurance has a lower price than whole insurance for exactly the same product. In equilibrium consumers choose to purchase zero units of whole insurance.

It is useful to compare the outcome of the duopoly case versus the monopoly case described above. Competition leads to lower prices for term insurance, but higher prices and commissions for whole insurance. In this sense, firms compete in the market for whole insurance by paying higher commissions and passing these higher commissions off to unsuspecting consumers as higher prices. While it is difficult to obtain representative data on the exact commissions paid for term and whole insurance, anecdotal evidence from a number of sources suggest that the commissions paid on whole insurance products are much larger than the commissions paid on term insurance products. Total profits to the insurance firms under duopoly are zero, whereas in the monopoly case total profits are positive.