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

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Abstract

We conduct a series of field experiments to evaluate two competing views of the role of financial service intermediaries in providing product recommendations to potentially uninformed consumers. One view argues intermediaries provide valuable product education, and guide consumers towards suitable products. Consumers understand how commissions affect agents' incentives, and make optimal product choices. The second view argues that intermediaries recommend and sell products that maximize the agents' well-being, with little or no regard for the customer. Audit studies in the Indian life insurance market find evidence supporting the second view: in 60-80% of visits, agents recommend unsuitable (strictly dominated) products that provide high commissions to the agents. Customers who specifically express interest in a suitable product are more likely to receive an appropriate recommendation, though most still receive bad advice. Agents cater to the beliefs of uninformed consumers, even when those beliefs are wrong.

We then test how regulation and market structure affect advice. A natural experiment that required agents to describe commissions for a specific product caused agents to shift recommendations to an alternative product, which had even higher commissions but no disclosure requirement. We do find some scope for market discipline to generate debiasing: when auditors express inconsistent beliefs about the product suitable from them, and mention they have received advice from another seller of insurance, they are more likely to receive suitable advice. Agents provide better advice to more sophisticated consumers.

Finally, we describe a model in which dominated products survive in equilibrium, even with competition.

1 Introduction

The recent financial crisis has spurred many countries to pursue new consumer financial regulations that could drastically change the way household financial products are distributed. Both Australia and the U.K. Financial Services Authority have announced bans, to take effect in 2012, on the payment of commissions to independent financial advisors.[1] And as of August 2009, the Indian mutual funds regulator banned mutual funds from collecting entry loads, which had previously primarily been used to pay commissions to mutual fund brokers.[2] Opponents of these bans argue that commissions are important to motivate agents to provide financial advice and customer education, that competition and reputation concerns will discipline agents, and that consumers have demonstrated little willingness to pay for independent financial advice.

There is very little evidence to inform these important policy questions. In this paper, we use a set of field experiments conducted in the Indian life insurance market to provide quantitative evidence on the quality of advice provided by commissions motivated agents. In addition, we test recent theories on how commissions motivated agents will respond to disclosure requirements, greater competition, or more sophisticated consumers.

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 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.[3] 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, 2010). Fourth, agent behavior is extremely important in this market, as approximately 90 percent of insurance purchasers buy through agents.

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[1] Independent Financial Advisors received commissions to sell mutual funds and life insurance products. See Reuters (2009), Vincent (2009) and Dunkley (2009) for more information on the U.K. ban on commissions. See "Australia Proposes Ban on Commission" in the Financial Times, September 4, 2011.

[2] For newspaper accounts of the importance of entry loads as the primary source of commissions see (1) "MFs Look For Life Beyond Entry Load Ban," Times of India, July 19, 2010 (2) "Mutual Fund Industry Struggling to Woo Retail Investors," Business Today, February 2011 Edition.

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

Lastly, commissions motivated sales agents are of particular importance in emerging economies where a large fraction of the population has little or no experience with formal financial markets. Commissions may motivate agents to identify potential consumers, educate them about the range of available products, and identify the most suitable products. Opponents, however, argue that the commissions motivated agents will encourage consumers to purchase expensive, complicated products that are not necessarily welfare maximizing for households. Systematic empirical evidence is needed to inform the policy debate about whether commissions motivated agents are necessary for encouraging the adoption of complicated household financial products.

This project consists of three closely related field experiments. All of these experiments use an audit study methodology, in which we hired and trained individuals to visit life insurance agents, express interest in life insurance policies, and seek product 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 generally much better off purchasing a term life insurance product than whole life. 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.

An important source of friction in financial product markets is that consumers may not know which products are best for them. A range of evidence suggests that individuals with low levels of financial literacy make poor investment decisions (Lusardi and Mitchell, 2007). An important role of agents may be to identify suitable products. In our first experiment, we randomly vary both the stated belief of the customer as to which product is most suitable, as well information the client provides about his or her actual needs. Thus, we have some treatments where the customer has an initial preference for term insurance but where whole insurance is actually 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 role is to match clients to suitable products, only the latter information should affect agent recommendations. In fact, we find agents are just as responsive to consumers self-reported (and incorrect) beliefs as they are 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. We view this result as important

because it suggests that agents have a strong incentive to cater to the initial preferences of customers in order to close the sale; contradicting the initial preference of customers, even when they are wrong, may not 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.

Our second, third, and fourth experiments test predictions on how disclosure, competition, and increased sophistication of consumers affect the quality of advice provided by agents.

In our second experiment, we study whether competition amongst agents can lead to higher quality advice. We find that that agents who face greater competition, which we induce by having our auditor state that they have already talked to another agent, leads to better advice. This evidence is consistent with standard economic models which suggest that, at least under perfect competition, agents will have an incentive to provide good advice.

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. 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 149 audits conducted before July 1, and 108 audits conducted after July 1. We find that following the implementation of the regulation, life insurance 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.

In our last experiment, we test whether the quality of advice received varies by the level of sophistication the clients demonstrate. We find that less sophisticated agents are more likely to receive a recommendation for the wrong product, suggesting that agents discriminate in the types of advice they provide. This result suggests that the selling of unsuitable products is likely to have the largest welfare impacts on those who are least knowledgeable about financial products in the first place.

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 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 literature argues that consumers are subject to behavioral biases, and may not be able to process all available information and make informed conclusions.

Bolton et al. (2007) 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. Inderst and Ottaviani (2010) show that even in a fully rational world, producers of financial products will pay financial advisors commissions as a way to incentivize them to learn what products are actually suitable for their heterogenous customers. Del Guerico and Reuter (2010) take a different tack, arguing 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 with naive consumers, where naivete is defined as ignoring the negative incentive effects of commissions, and find that naive consumers 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, Mullainathan, Noth, 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, 2010) 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 funds from 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 accounting 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, discuss why whole insurance policies are dominated by term policies, and economic theories of why individuals might still purchase whole policies. Section III discusses the theoretical framework that guides our empirical tests. Section IV presents the experimental design, while Section V and VI present our results. In section VII, we describe an equilibrium model of insurance markets in which dominated products survive, even with competition. Section VIII 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 savings accounts. Rajagopalan (2010) conducts a similar calculation and also concludes that purchasing term insurance and saving strictly dominates purchasing whole or endowment insurance plans.

We start by comparing two product offerings from the Life Insurance Corporation of India (LIC), the largest insurance seller in India. 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 #190), for a 25-year old male seeking at least Rs. 2,500,000 in coverage (approximately USD $50,000), commencing coverage in 2010.

For a whole life policy, such a customer would make 55 annual payments (until the age of 80 is reached) of Rs. 55,116 (ca. $1,110 at 2010 exchange rates). The policy has a face value

of Rs. 2,500,000 if the client dies before age 80. In case the client survives until age 80, which would be the year 2065, the product pays a maturation benefit equal to the coverage amount. The coverage amount is not necessarily constant: it may be increased via LIC's "bonus" policy, which the insurance company may declare if it earns profits. For the past several years, bonuses have ranged from 6.6% to 7% of the original coverage amount of the insurance policy. 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 in the future.

A critical point to be made here is that the bonus is not compounded.[4] Rather, the bonus added is simply the amount of initial coverage, multiplied by the bonus fraction. For example, if the company declares a 7% bonus each year, the amount of coverage offered by the policy will increase by .07*2,500,000=Rs. 175,000 each year. Thus, after 55 years, when the policy matures, its face value will be Rs. 2,500,000 + 55*175,000=Rs. 12,125,000.

If these 7 percent bonuses were in fact compounded, the policy would have a face value of Rs. 2,500,000*1.07^55, or over Rs. 103 million, an amount more than *eight times* larger. Stango and Zinman (2009) describe evidence from psychology and observed consumer behavior that individuals have difficulty understanding exponential growth. Consumers who do not understand compound interest may not appreciate how much more expensive whole life policies are.

A second feature of the two 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 with whole life the purchaser was guaranteed to get at least the nominal premium paid returned.

In Appendix Table 1, we evaluate the whole life insurance product by creating a replicating

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[4]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. We present a formal model along these lines that is consistent with our empirical results later in this paper.

portfolio, which consists of a term insurance policy plus savings in a bank fixed deposit account. Each year, the replicating portfolio provides at least as much coverage (savings plus insurance coverage) as the whole policy, while requiring the exact same stream of cash flows from the client. A 25-year old man seeking coverage of Rs. 2,500,000 would pay Rs. 55,116 per year for whole insurance. If instead he bought a 35-year term policy with Rs. 4,000,000 in coverage, he would pay Rs. 11,996 each year for 35 years. Over that period, he could save the difference (55,116-11,996=43,120); once the term policy expired, the replicating portfolio would save Rs. 55,116 per year. In each year, the death benefit (of term payout, if the policy is active, plus savings) would be greater than the benefit from the whole policy, including the bonuses. The differences are dramatic: the initial coverage of the replicating portfolio is Rs. 4 million, vs Rs. 2.5 million for the whole policy. At age 35, the term plus savings is worth 9% more than the whole payout. By age 55, the replicating portfolio is worth 36% more than the whole payout, and by age 85 the replicating portfolio would be worth Rs. 91 million, compared to Rs. 13 million benefit from the whole policy. The replicating portfolio is almost seven times more valuable.

One argument commonly advanced in favor of 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 35 years later.[5] The individual has saved up enough in the savings account to provide self-insurance after 25 years, which is greater than the amount of insurance that the whole life policy provides.

But even this comparison understates the difference in value dramatically, for at least two reasons. First, the replicating portfolio builds up a substantial savings balance, which is liquid. Second, if an individual does not pay each premium promptly, the insurance company has the right to declare the policy lapsed. Some estimates suggests lapse rates are high: 6% of outstanding policies lapse in a given year (Kumar, 2009). If the customer lapses after paying premiums for three or more years, the plan guarantees a recovery value of only 30% of premiums paid (less the

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

first year's premiums).

Thus, for an equivalent investment, the buyer receives up to six 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 S&P500 fund might earn 8% per annum, and therefore be worth $69 after 55 years. If an investor invested $1 in a "high cost" mutual fund that charged 2% in fees, the value after 55 years would be $25, or about one third as large. The life insurance mark-up is thus by this metric twice as large as the mark-up on the highest cost index funds.

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 committment features that some consumers value (Ashraf et al. (2006)). 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 the policy "lapses' within the first three years.

However, it is not clear that the commitment feature alone is sufficient to explain the popularity of whole life insurance. Ashraf et. al. (2006) finds only 25% of the population exhibit hyperbolic preferences. Moreover, there are other savings products in the Indian context that offer similar commitment device properties but substantially higher returns. Fixed deposit accounts involve penalties for early withdrawal. Public provident fund accounts require a minimum of Rs. 500 per year contribution, and allow the saver no access to the money until at least 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.

Finally, there is no reason a financial services provider could not offer commitment savings accounts without an insurance component. The fact that no such product has been developed in India or around the world suggests that this product is not simply satisfying demand for commitment savings.

Nevertheless, we acknowledge that a desire to commit may be relevant for some consumers. Hence, for any shopping visit in which we regard term insurance as the more appropriate product, the mystery shopper clearly told the insurance agent that she or he was seeking risk coverage at a low cost, rather than a savings vehicle.

3   Theoretical Framework

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; i.e. they will be encouraged to purchase an advanced product that has higher commissions but no real benefits to them (Inderst and Ottaviani, 2011, Gabaix and Laibson, 2005).[6] 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 (i.e. we shut down any commitment savings channel).

The second set of predictions relates to how regulation and market structure affect the quality of advice. We test three predictions from the theoretical literature.

Our first test centers on the role of competition in the provision of advice. Inderst and Ottaviani (2011) and Bolton et. al. (2007) show that increased competition amongst agents who provide products and advice can improve the quality of advice for customers. On the other hand, Gabaix and Laibson (2006) show that increasing competition need not lead firms to unshroud product characteristics that hurt naive consumers. Our auditors vary the level of competition perceived by agents, by reporting whether their information about insurance comes from a friend (low competition), or from another agent from which our auditor is thinking of purchasing insurance (high competition).

Second, a large literature in economics predicts that competition between firms will induce

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[6]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.

firms to disclose all relevant information regarding products (Diamond (1985), Grossman (1989)). In these models, mandatory disclosure enforced by the government does not change consumer decisions and does not improve welfare. However, Inderst and Ottaviani (2011) 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.

Lastly, a key feature of the recent theoretical models in Inderst and Ottaviani (2011) and Gabaix and Laibson (2006) is the presence of two types of agents, with different levels of sophistication. Inderst and Ottaviani (2011) predict that these sophisticated types will receive better advice. We test this prediction by inducing variation in the level of sophistication demonstrated by the agent during the sales visit.

4 Experimental Design

4.1 Setting

In this section we describe the basic experimental setup common to the three separate experiments we ran in this study. All of the auditors used have at least a high school education. Intensive introductory training on life insurance was provided by a former financial products sales manager, and a principal investigator. Subsequently, each auditor was trained in the specific scripts they were to follow when meeting with the agents. Each agent's script was customized to match the agents true life situation (number of children, place of residence, etc.). However, agents were given uniform and consistent language to use when asking about insurance products, and seeking recommendations. Auditors memorized the scripts, as they would be unable to use notes in their meetings with the agents. Following each interview, auditors completed an exit interview form immediately, which was entered and checked for consistency. 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. Upon completion of the study, all auditors were given a cash bonus which they used to purchase a life insurance policy from the

agent of their choice. All of our auditors chose to purchase term insurance.

In each experiment, treatments were randomly assigned to auditors, and auditors to agents. Note that because the randomizations were done independently, this means that each auditor did not necessarily do an equivalent number of treatment and control audits for any given variable of interest (i.e. sophistication and/or competition). 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.

Life insurance agents were identified via a number of different sources, most of which were websites with national listings of life insurance agents.[7] Contact procedures were identical across the treatments. While some agents were visited more than once, care was taken to ensure no auditor visited the same agent twice, and to space any repeat visit 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.

Table 2 presents summary statistics across the three experiments we report results on in this paper. The Quality of Advice experiment was conducted in one major Indian city, and the Disclosure and Sophistication experiments were conducted in second major Indian city.[8] Across the experiments, between 50-75% of agents visited sold policies underwritten by the Life Insurance Company of India (LIC), a state owned life insurance firm. This fraction is consistent with LIC's market share, which was 66 percent of total premiums collected in 2010.

In terms of the location of the interaction between the auditor and the life insurance agent, one major difference between the Quality of Advice experiment and the Disclosure and Sophistication experiments is that a substantial number of Quality of Advice audits occurred at venues outside the agent's office. These other locations were typically a restaurant, cafe, railway or bus station, or public park. In the Disclosure and Sophistication experiments, 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. The length

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[7]We also included a small number of agents we found through outdoor advertisements and through a listing of Life Insurance Corporation of India agents.

[8]The Competition experiment was conducted as a sub-treatment within the Quality of Advice experiment, and thus shares the same summary statistics.

of audit did not vary substantially across the different experiments.

Matched pair audit studies used to identify discrimination have been criticized on methodological grounds. These studies, which involve sending, for example, black and white car buyers to purchase a car. Critics argue that even if auditors stick to identical scripts, they may exhibit other differences (apparent education, income, etc.) that could lead sales agents to treat buyers differently for reasons other than the buyer's race or sex (Heckman, 1998). While our study is not subject to this criticism–our treatments were randomized at the auditor level, so we can include auditor fixed effects–we took great care to address other potential threats to internal validity. Outright fraud from our auditors is very unlikely, as they were obliged to hand in business cards of the sales agents. To monitor script compliance, we paid insurance agents within the principal investigators' social network to "audit the auditors"–these agents reported that our auditors adhered to scripts. The outcome we measure, policy recommended, is relatively straightforward, and auditors were instructed to ask the agent for a specific recommendation. To prevent auditor demand effects, we did not inform the auditors of the hypotheses we were interested in testing.

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, as well as to consumers potentially incorrect beliefs about which product is most appropriate for them. In particular, one reason 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 half 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 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 case the auditor demonstrates a real need for term insurance. By comparing agent recommendations across these two groups, we

can measure whether agent recommendation responds to agents true needs. Appendix Table A2 presents the exact wording of all of the experimental treatments in this study.

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 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?"

Finally, to understand the role of competition, we also varied the source auditors mentioned when talking about their beliefs. In the low competition treatment, the auditor named a friend as a source of the advice. In the high competition treatment, the auditor said the suggestion had come from another agent from whom the auditor was considering purchasing.

Each of these three treatments (product need, product belief, and source of information) was assigned orthogonally, so this experiment includes eight treatment groups.

Table 3 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)). As would be expected given the randomization, there are almost no systematic differences across the two groups. The only significant difference is that audits assigned a bias towards whole were approximately two percentage points more likely to be conducted at the auditor's home. We include audit location fixed effects in our specifications and find they do not substantially change the results.

Columns (3) and (4) present characteristics of audits where the auditor was randomized into having a need for term insurance (Column (3)) or a need for whole insurance (Column (4)). The next two columns present the pre-treatment characteristics of audits where the source of the bias was another agent (Column (5)) or a friend (Column (6)). There are also no statistically significant differences in the pre-audit characteristics across these groups.[9]

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[9]Throughout the paper, we use robust standard errors; results and significance levels are virtually identical if we cluster standard errors at the level of randomization, auditor*day.

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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 74% recommend purchasing only whole. A previous version of this paper documented a range of wildly incorrect statements made by agents, such as "term insurance is not for women;" "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 4 presents our main results on how variation in the needs of customers and biases of customers affect the quality of financial advice.[10] Column (1) presents results on whether the agent's final recommendation included a term insurance policy (in about 8% of the cases, agents recommend 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. The interaction of these two variables is statistically insignificant. This suggests that agents are just as likely to cater to beliefs as needs.

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.

Column (3) 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 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 only purchase term 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 exclusively term insurance. This effect is not statistically significant at conventional levels. When the auditor both states that they

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[10]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.

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 primarily do it by recommending term insurance products as an addition to whole insurance products, rather than recommending the purchase of term.

Overall, the results in Columns (1) - (4) suggest that agents will respond approximately equally to both the needs and pre-existing biases of customers. 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 as well as the amount of commission that can be earned. Agents do not seem to 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 customers bring to their insurance purchase decisions.

Columns (5) and (6) shows that stating an initial bias towards term insurance causes the agent to recommend the customer purchase approximately 13 percent more risk coverage, while expressing a need for risk coverage increases the recommended risk coverage by 17 percentage points. Both of these effects are significant at the five percent level, but their interaction is not. Again, these results suggest agents will cater approximately equally to the stated preferences of a customer (even if those preferences are inconsistent with their actual needs), about as much as they cater to the actual stated needs of customers.

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 (not reported). In

the case where the auditor sought risk coverage at an affordable cost and said they had heard risk coverage was a good product for them, agents recommending term insurance proposed 2.3 million rupees of risk coverage, with an annual premium cost of approximately 31,000 rupees. Agents recommending whole insurance suggested customers purchase 522,000 rupees of risk coverage, with an annual premium of approximately 28,000 rupees. Our auditors characteristics (income, dependents) are the same no matter what beliefs they express, meaning there is no economic reason to suggest greater coverage levels when the auditor expresses a preference for coverage at low cost. One explanation for this result, consistent with the bad advice hypothesis, is that agents base their recommendations on the amount of premiums customers can pay, as opposed to the amount of risk coverage customers actual need. Our finding here is consistent with anecdotal 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.

In summary, we find the following. Despite the fact term is an objectively better policy, between 60 and 80 percent 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, 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 whole insurance makes sense for someone who is seeking risk coverage.

6   Financial Advice and Market Structure

These previous results are consistent with the models of Inderst and Ottaviani (2011), Gabaix and Laibson (2006) and Bolton et al. (2007) which suggest 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. As our experimental design allows us to measure the type of advice

given, we focus on three predictions. First, the threat of increased competition from another agent will reduce the probability an unsuitable product is recommended. Second, increasing consumers awareness of commissions will reduce the tendency to recommend unsuitable products. Third, agents will provide different advice to sophisticated versus unsophisticated consumers.

6.1 Competition

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 only 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 already spoken to another agent. Audits randomized into the high competition treatment stated that they heard from another agent term (or whole) might be a good product for them. Audits randomized into the low competition treatment state that they heard from a friend that term (or whole) might be a good product for them.

The audits for which these data are based on are the same as those used in the Quality of Advice experiment. Table 5 presents our results on the impact of greater perceived competition on the quality of advice provided by life insurance agents. The specifications reported here are the same as those in Table 4, 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. Columns (5) and (6) show that the competition treatment 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 between the bias treatment, the need treatment, and the competition treatment. 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 debias agents when the threat of competition looms. This effect is measured by summing the coefficients on the variables Competition and (Need=Term)*Competition. The sum suggests agents advising customers who need term but are biased towards whole are 10 percent more likely to recommend term insurance if they perceive higher levels of competition. The hypothesis that (Need=Term)*Competition + Competition = 0 can be rejected at the 5% level. This result suggests that if perceived competition is high enough, agents will attempt de-bias customers as a way of winning business.

We do not, however, find that competition 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)*Competition 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 the customer purchase only term insurance. We do not find any evidence that agents attempt to de-bias consumers by recommending they only purchase term insurance. The coefficient on the interaction term (Need=Term)*Competition is small and insignificant in Columns (7) and (8). We find that the competition treatment is only effective, in this case, when the agent 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 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.

6.2 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 requiring agents to disclose commissions when selling ULIPs.

There are two specific features of this policy we emphasize before discussing our empirical 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, including commissions) 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 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.

Table 6 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, 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 Table 3 present summary statistics on the randomization of the different levels of knowledge about commissions.

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6.3   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 1 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 jump 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 7 presents the formal empirical 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.

Column (1) presents a regression without controls. 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 concerned about commissions differently than those who are not, and that disclosure policy can improve customer awareness. 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.

One potential threat to the validity of our analysis is the change in composition of agents between the pre- and post-period. Perhaps most important is the difference between the fraction of agents selling policies issued by government-owned insurance companies before and after the law change. 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 19 percentage points.

In columns (3) and (4) we examine agents for government-owned and private insurance com-

panies seperately. Among those selling policies underwritten by government-owned companies, there is a 30 percent decrease in the likelihood of recommending a ULIP policy after the disclosure law becomes effective. Amongst private underwriters, we find a negative point estimate, although the coefficient is not significant at standard levels. The result in Column (3) suggests that the observed reduction in ULIP recommendations in the whole sample is not driven by a compositional shift in the types of agents the auditors meet.

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. Further analysis (not reported) finds agents were approximately 20 percentage points more likely to recommend whole insurance type products following the law change. There was no change in their propensity to recommend term insurance. 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.

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. The coefficient on the Disclosure Knowledge variable is small and statistically insignificant in all of the specifications. This treatment does not seem to be affected by the disclosure requirement.

Columns (5) and (6) test whether the commission disclosure requirement had important impacts on the amount of risk coverage and premium payments recommend by agents. We find no statistically significant differences here, suggesting that the types of products recommended were similar in terms of their risk characteristics after the policy change.

6.4   Customer Sophistication

In our final experiment, we manipulated the the level of sophistication about life insurance policies projected by the auditor. 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.

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 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. 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 3 presents a randomization check for the Sophistication experiment. The only statistically significant different 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 Table 8, 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 causes a ten percentage point increase in the likelihood that an agent includes term insurance as a part of their recommendation. This

result is statistically significant at the 10 percent confidence level. In Column (2) we include a set of control variables, the point estimate and confidence interval are virtually unchanged. Thus, we do see 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 the auditor purchase only a term a 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 only 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 approximately 22 percent more insurance coverage (Column (5)). 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 up to 25 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 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.

7 A Model of Commissions, Bad Advice, and Dominated Products

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 it is possible that 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.

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 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 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 that 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 agents to sell whole and term insurance (c_w, c_t). In the second period, agents respond to the incentives set by the insurance companies, and consumers make decisions on how much whole and term insurance to purchase and insurance. An Appendix contains the proofs of all the results discussed here.

7.1 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 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), that 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.

7.2 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) (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. In the Appendix 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 dominating term policy does not offer the margins necessary to pay large commissions. 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.[11] 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 as 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 term insurance 3) Agents provide poor advice (i.e do not try to de-bias consumers towards whole insurance) 4) The industry has multiple, seemingly competitive, insurance providers. Nonetheless, further empirical work is necessary to distinguish the model presented from other potential explanations for the existence of dominated products, such as entry barriers or other market frictions.[12]

8 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

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

[12]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.

decisions. Clearly, the private sector will be important in educating new investors and providing suitable products. 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 to begin with.

In this paper, 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.

We then use an audit study to test two types of predictions emerging from recent theoretical models on commissions and financial advice. The first prediction is that agents will have an incentive to recommend more expensive, less suitable, products to consumers. Throughout our three experimental designs, we find that life insurance agents rarely recommend term insurance. Even in audits where there should be no commitment savings motivation, we still find agents predominantly recommend whole insurance.

We also find that agents cater to customers' 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. 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 relying on competition to de-bias consumers of their mis-conceptions may not lead to markets that inform consumers.

We find that government underwriters are much more likely to recommend the dominated product. We view the government underwriter result as important. Government ownership is sometimes advanced as a solution to market failures, yet in this setting, agents representing government underwriters, in particular the Life Insurance Company of India, were much less likely to recommend a suitable product.

We then proceed to test predictions on how changes in the regulatory and market structure can affect advice given by financial agents.

We test the theoretical mechanism that competition amongst agents can lead to better advice. As mentioned above, the first order fact seems to be that competition does not suffice to motivate agents to provide good advice in this context. In an experiment,we find that increasing the apparent level of competition does lead to the agent attempting to de-bias the customer by offering term insurance. This also suggests that encouraging customers to shop around when looking for consumer financial products may be a simple way to improve the quality of advice provided by agents.

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.

Lastly we find that agents who signal sophistication by demonstrating some knowledge of insurance products get better advice. Auditors that stated they had a deep understanding of insurance products were 10 percentage points more likely to receive a recommendation that included term insurance. This result suggests that the worst educated may suffer most from commission-motivated sales behavior. Further, it suggests that agents may play an important in helping financial firms discriminate between sophisticated and unsophisticated consumers, which can be valuable if unsophisticated consumers can be persuaded to purchase dominated products.

We present an equilibrium model where a dominated financial product, such as whole insurance, could persist. The key ingredients of this model are the existence of at least some customers who can be persuaded to purchase the dominated product; competition amongst firms leads to agents being paid higher commissions to sell the product, and the higher commissions are passed on to unsophisticated consumers through higher prices. We believe that this type of model may have wider applicability across a range of settings where customers are uninformed about the suitability or value of products.

We believe our study opens some important questions for further research. First, how effective is the persuasive power of agents? How important are behavioral biases such as loss aversion and exponential growth bias in driving demand for a dominated product? In the spirit of Bertrand and

Morse (2011), could consumers be debiased? The answers to these have important implications for optimal regulatory policy and household financial decision-making.

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10   Appendix

11   Model of a Dominated Financial Product

11.1   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 $(s + c_t)(p_t - \alpha) + (\alpha p_t - \alpha k - p_t^2 - c_t\alpha + kp_t + c_tp_t) = 0$. 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).[13]

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 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

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[13]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.

$\frac{1}{3}(\alpha - k)$.

We now show that when both products are offered and prices and commissions are chosen separately for each, that the price of term insurance will be higher 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 their to be any positive demand for either insurance product. Thus, the monopolist will always choose higher prices for the whole insurance product versus 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 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:

$$\frac{s(\alpha - k)^2}{4} > s[\frac{1}{3}(2\alpha + k - s) - k - \frac{1}{3}(\alpha - k - 2s)][\alpha - \frac{1}{3}(2\alpha + k - s)]$$
$$\frac{(\alpha - k)^2}{4} > \frac{1}{9}(\alpha - k + s)^2$$

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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, then 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 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. We have also shown that the monopolist will choose higher prices and commissions for whole insurance than for term insurance.

11.2 Two Competing Insurance Companies

The setup of this problem is defined in the Conclusion and Discussion section of the main text. 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: $\frac{1}{2}(p_i - k + bc_j)$. 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.

Figure 1: Fraction of Agents Recommending ULIP (Unit-Linked Life Insurance) Products
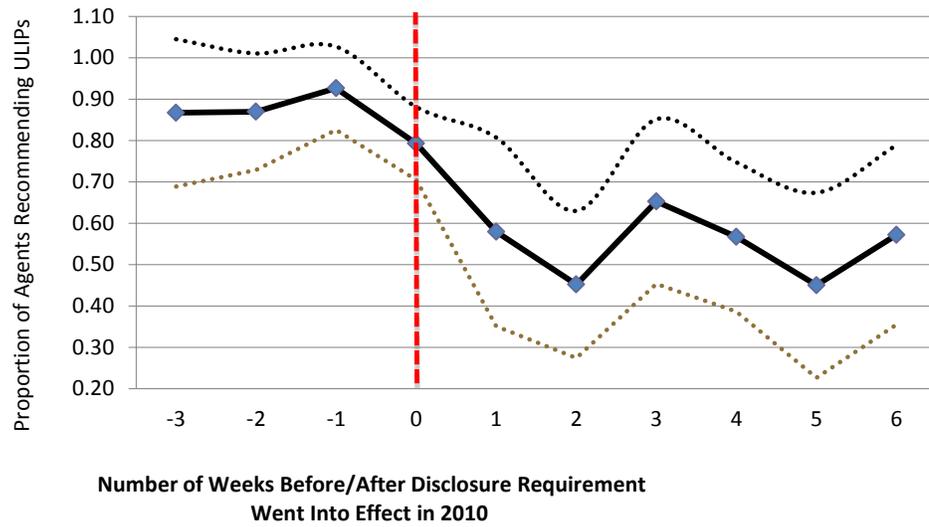
Figure 1 plots the fraction of agents each week recommending ULIP products to our mystery shoppers. The day the reform went into effect, July 1, 2010, is indicated by a red line.

Table 1: Audit Counts

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

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 final column provides the number of distinct agents visited for each treatment combination. **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	0.25	0.75
	(0.39)	(0.43)	(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

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: Tests of Randomization

	Quality of Advice						Disclosure		Sophistication	
	Bias Treatment		Suitability Treatment		Competition 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

*** p<0.01, ** p<0.05, * p<0.1

Table 3 presents summary statistics from our three experiments disaggregated by treatment. They are used to perform randomization checks, univariate regressions (with robust standard errors) 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 1, **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).

Table 4: Do Agents Cater to Customers 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
	(0.029)	(0.028)	(0.011)	(0.011)	(0.060)	(0.058)	(0.050)	(0.045)
Need=Term	0.116 ***	0.126 ***	0.015	0.019 *	0.170 **	0.177 **	0.002	-0.005
	(0.032)	(0.031)	(0.011)	(0.011)	(0.075)	(0.075)	(0.051)	(0.048)
(Bias=Term)*(Need=Term)	0.021	0.006	0.053 *	0.049 *	0.055	0.051	0.043	0.038
	(0.057)	(0.055)	(0.030)	(0.028)	(0.128)	(0.127)	(0.065)	(0.060)
Government Underwriter		-0.121 ***		-0.017		-0.222 **		-0.039
		(0.039)		(0.021)		(0.094)		(0.050)
Audit Location								
Agent Home		0.012		-0.021		-0.069		-0.113
		(0.047)		(0.027)		(0.105)		(0.071)
Auditor Home		-0.132		-0.018		-0.499 *		-0.673
		(0.105)		(0.026)		(0.282)		(0.517)
Auditor Office		0.329 **		0.206		0.315		-0.554 ***
		(0.155)		(0.140)		(0.250)		(0.212)
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
Observations	557	557	557	557	538	538	540	540

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table 4 reports regressions where the dependent variables are the (exclusive) presence of term insurance in the agent's 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 auditor's 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 one's 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 19 audits.

Table 5: Does the Presence of Competition Improve Agent Advice?

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Recommended Any Term				Recommended Only Term			
Bias=Term	0.105 ***	0.106 ***	0.091 **	0.090 **	0.043 ***	0.045 ***	0.026	0.027
	(0.028)	(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
	(0.028)	(0.027)	(0.038)	(0.035)	(0.015)	(0.014)	(0.019)	(0.020)
Competition	0.024	0.033	-0.011	-0.008	0.010	0.012	0.000	0.001
	(0.028)	(0.027)	(0.023)	(0.024)	(0.014)	(0.014)		(0.006)
(Bias=Term)*Competition			0.011	0.030			-0.013	-0.008
			(0.057)	(0.056)			(0.022)	(0.022)
(Need=Term)*Competition			0.111 *	0.135 **			-0.027	-0.023
			(0.067)	(0.067)			(0.019)	(0.021)
(Bias=Term)*(Need=Term)			0.062	0.075			-0.006	-0.004
			(0.076)	(0.071)			(0.037)	(0.036)
(Bias=Term)*(Need=Term)*Competition			-0.095	-0.158			0.125 **	0.113 **
			(0.115)	(0.113)			(0.059)	(0.055)
Government Underwriter		-0.122 ***		-0.128 ***		-0.020		-0.013
		(0.039)		(0.039)		(0.021)		(0.020)
Audit Location								
Agent Home		0.009		0.002		-0.022		-0.019
		(0.047)		(0.047)		(0.028)		(0.027)
Auditor Home		-0.138		-0.140		-0.018		-0.015
		(0.108)		(0.112)		(0.029)		(0.025)
Auditor Office		0.331 **		0.332 **		0.207		0.202
		(0.156)		(0.158)		(0.139)		(0.137)
Other Venue		-0.020		-0.028		-0.022		-0.016
		(0.040)		(0.040)		(0.023)		(0.022)
Auditor Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Observations	557	557	557	557	557	557	557	557

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table 5 reports regressions where the dependent variables are the (exclusive) presence of term insurance in the agent's recommendation. The main independent variable is competition (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

Table 6: 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)	(0.05)
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)	(0.01)
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)	(2.07)
Recommendations:				
Only Whole	0.25	0.15	0.39	0.24 ***
	(0.43)	(0.36)	(0.49)	(0.06)
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)	(0.06)
Any Whole	0.27	0.15	0.43	0.27 ***
	(0.44)	(0.36)	(0.50)	(0.06)
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)	(0.06)
Observations	257	149	108	

Table 6 presents summary statistics from the disclosure experiment disaggregated by timing. They are used to perform a balance check, univariate regressions (with robust standard errors) of the treatment on each independent variable. Significant differences are denoted by asterisks.

Table 7: Disclosure Regulations and Product Recommendations

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:		ULIP Rec	ommendation		Ln(Risk Cover)	Ln(Premium)
			Government	Private		
Sample:	All	All	Underwriter	Underwriter	All	All
Post Disclosure	-0.25 ***	-0.19 **	-0.30 **	-0.07	0.15	0.03
	(0.09)	(0.08)	(0.12)	(0.08)	(0.13)	(0.07)
Disclosure Inquiry	0.05	0.02	0.07	0.00	0.02	0.00
	(0.06)	(0.06)	(0.13)	(0.05)	(0.11)	(0.06)
Post * (Disclosure Inquiry)	-0.06	-0.02	-0.06	0.07	0.02	-0.01
	(0.12)	(0.10)	(0.17)	(0.11)	(0.17)	(0.09)
Government Underwriter		-0.42 ***			0.29 ***	0.01
		(0.05)			(0.10)	(0.05)
Audit Location						
Agent Home		-0.01	-0.02	0.07 *	0.06	0.04
		(0.08)	(0.10)	(0.04)	(0.12)	(0.08)
Auditor Home		-0.02	-0.25	0.03	0.65 *	0.24
		(0.11)	(0.16)	(0.05)	(0.37)	(0.21)
Auditor Office		0.18	0.65 ***	0.05	0.62 ***	0.30 *
		(0.13)	(0.12)	(0.05)	(0.19)	(0.17)
Other Venue		0.06	0.04	0.06 *	0.07	-0.01
		(0.09)	(0.13)	(0.04)	(0.14)	(0.07)
Auditor Fixed Effects	No	Yes	Yes	Yes	Yes	Yes
Observations	257	257	134	134	214	214

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table 7 reports regressions where the dependent variable is a binary equal to 1 if a ULIP product is recommended for columns (1) -(4). The dependent variable in columns (5) and (6) 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.

Table 8: 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)	(0.12)	(0.12)	(0.09)	(0.10)
Government Underwriter		-0.08		-0.09		-0.25		0.05
		(0.07)		(0.06)		(0.16)		(0.10)
Audit Location								
Agent Home		0.10		-0.01		0.21		-0.21
		(0.10)		(0.06)		(0.18)		(0.18)
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
		(0.09)		(0.09)		(0.16)		(0.13)
Other Venue		-0.01		0.06		-0.17		-0.28
		(0.09)		(0.09)		(0.24)		(0.19)
Auditor Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Observations	217	217	217	217	209	209	209	209

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table 8 reports regressions where the dependent variables are the (exclusive) presence of term insurance in the agent's 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.

Appendix Table A1: Comparison of Whole vs. Term Plus Savings

Panel A: Life Insurance Products

	Whole Life Insurance	**Term Life Insurance**
	Government and private insurance companies	Government and private insurance companies
Specific Plan Example	The Whole Life Plan (#2)	Amulya Jeevan (#190)
Firm Offering	Life Insurance Corporation of India (LIC)	Life Insurance Corporation of India (LIC)
Coverage Amount	2,500,000	4,000,000
Premium for 25 year old male	Rs. 55,116	Rs. 11,996
Years client pays	47	35
Years policy pays out	until death of client, no matter the age	35
Historic bonus percentage	7% (non-compounded)	n/a

Panel B: Savings Products

	Promised interest rate
Bank Fixed Deposit	8.75%
Government Provident Fund	8%

Panel C: Comparison of Whole Life vs. Term and Fixed Deposit Savings

	Whole Life Insurance	Term + Savings
Products Purchased	Rs. 2.5m in life insurance at Rs. 55,166 per year for 47 years	Rs. 4m of term life insurance for 35 years, at annual payments of 11,996 per year for 35 years. Savings deposit of Rs 55,166-11,996=43,170 per year for 35 years, earning 8.75% Savings deposit of Rs. 55,166 per year from years 36-47, earning 8.75%

Value Upon Death (Rs.)		Whole Payout	Term Payout (if any) + Savings
Dying at age:	25	2,675,000	4,046,893
	35	4,425,000	4,812,490
	45	6,175,000	6,583,792
	55	7,925,000	10,779,449
	65	9,675,000	16,584,940
	75	11,425,000	39,271,154
	85	13,175,000	91,310,405

Appendix Table A2 Text of Treatments

Quality of Advice Experiment

Bias treatment Text of statement	Bias towards term "I have heard from [source] that term insurance is a really good product."	Bias towards whole "I have heard from [source] that whole insurance is a really good product."
Needs treatment Text of Statement	Need term "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."	Need whole "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 Competition	High 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"	Low Competition "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?"