# Conflict of Interest, Disclosure, and Vertical Relationships: An Experimental Analysis

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Abstract

In this paper we describe the design and results of an experiment in which an advisor recommends to a client one of two potential assets to purchase and also a price to offer. In one setting the incentives of the two players are fully aligned but in another the advisor receives some additional payment for selling one of the assets. We consider two treatments, with and without disclosure to the client of the advisor's conflicted interests. We find that an advisor's conflict of interest influences their asset recommendation away from the asset that best serves the client's interests. We find that disclosure of the advisor's conflict of interest as common knowledge seems to influence neither the advisor's recommended asset nor, more surprisingly, the client's likelihood of rejecting the advisor's recommendation. However, we do find that disclosure results in a larger financial payoff for the client and no lower payoff to the advisor. The how and why for the greater financial benefit to the client is not yet clear.

Keywords: Experiment; financial advice; disclosure, conflict of interest

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## 1. Introduction

Concerns about conflicts of interest for financial advisors are widespread. In February 2015 the U.S. Council of Economic Advisors issued a report entitled, "The effects of conflicted investment advice on retirement savings" (CEA 2015), suggesting that conflicted financial advice reduced expected returns for investors and that the costs of this could be in the vicinity of US$17b per annum. While these precise conclusions have been contested (see, for example, NERA 2015), the Report has been part of a push in the Obama administration to reduce and expose conflicts of interest in the provision of financial advice (see US Department of Labor 2015.) On July 1 2013 a package of reforms to the financial advice industry, the Future of Financial Advice (or FOFA) became mandatory in Australia. Amongst other things, FOFA was designed to address the issue of "conflicted remuneration": the practice of financial advisors receiving incentives for the selling of certain financial instruments.

At the same time as Australians have debated FOFA, there have been a number of scandals in the Australian financial planning sector. Macquarie Private Wealth admitted to providing poor advice to clients who were uninformed about where their money was placed and with respect to whom the bank failed to comply with record-keeping and other regulatory requirements. The Commonwealth Bank, in its Commonwealth Financial Planning Limited (CFPL) company, "accepted … that multiple CFPL advisors failed to meet required compliance standards and provided advice that was irresponsible, self-serving and incidental to client interests" over the course of a number of years in the late 2000s (The Senate Economics References Committee, 2014, p.110.)

In Australia it is estimated that some 80% of financial planners are, "either employed by or aligned to the big four banks and AMP" (Ferguson, 2014) and, even

absent explicit payments for sales, it is possible that career progression and other concerns with the enterprise's wellbeing might impinge on the performance of an advisor. So, does the fact of vertical integration between sellers of financial products and providers of financial advice give rise to problems automatically? And to what extent can disclosure to a client of the existence of conflict be relied upon to ensure the advisor provides advice that is in the best interests of his or her client?

In this paper we describe the design and results of an experiment that we believe can shed some light on these issues. We set up an experimental structure in which an advisor recommends to a client one of two potential assets to purchase and also a price to offer. In one setting the incentives of the two players are fully aligned but in another the advisor receives some additional payment for selling one of the assets in particular. We consider two treatments of this basic setup, with and without disclosure to the client of the advisors conflicted interests.

There is some experimental and survey evidence in the literature that suggests that disclosure requirements alone can have perverse effects on the behaviour of advisors, such that clients can be rendered worse off. A further part of our experiment serves both to familiarise participants with the experiment and to see if we can replicate the qualitative results in Cain, Loewenstein and Moore (2005) in this area.

Our experimental results confirm that when the advisor's compensation scheme favours recommending a specific asset, this conflict of interest influences the advisor's asset recommendation toward that favoured asset and away from the asset which is better from the client's perspective. Using disclosure to counter conflict of interest inherent in the vertically integrated financial advice industry may or may not be effective. We find that when the client is informed of the advisor's conflict of interest and the advisor is aware of that disclosure, disclosure of conflict of interest

seems to have no influence on the advisor's choice of asset to recommend to the client and, more surprisingly, the client is not more likely to reject the advisor's asset recommendation. However, we do find in our setup that disclosure results in a larger financial payoff for the client and no lower payoff to the advisor. The how and why for the greater financial benefit to the client is not yet clear.

The remainder of the paper is as follows. In Section Two we describe the background more fully and review the relevant literature. Section Three describes our experiment and its implementation, sections Four and Five discuss our data and empirical approach and our results respectively and a final section concludes.

## 2. Background

As noted above, on July 1 2013 a package of reforms to the financial advice industry, the Future of Financial Advice (or FOFA) became mandatory in Australia. The newly elected Coalition government of that year proposed a raft of changes to these reforms, announced in December 2013, and, after significant public commentary and reaction, a final package of reforms was announced in June 2014. To address the issue of "conflicted remuneration", the 2013 FOFA restricted the payment of commissions to financial advisors when they persuaded clients into certain products, but the proposed reforms rolled back these restrictions for certain kinds of advice that were deemed to be "general". The reforms also proposed to remove what the government described as an, "open-ended catch-all requirement" that an advisor take all reasonable steps to act in the perceived best interests of their client; an unnecessary requirement, in the new government's view, as Australian legislation already required that an advisor take a number of significant steps to seek to ascertain the client's situation and best interests.

The scandals that have recently arisen in Australia around financial advice,

however, are principally concerned with cases where advisors may have unspecified – yet clear to them – incentives to sell particular assets or services. For example, selling superannuation products provided by a company that is a partner of one's own employer may enhance one's career, even in the absence of direct commissions or payments to make such sales. In these contexts, disclosure is not fully informing for a client and our experiment is designed to capture this feature.

As this issue has gained increased attention from policy-makers worldwide in recent years, so an academic literature has also grown up around the questions of conflict of interest and disclosure. A recent comprehensive survey of, *inter alia*, the experimental and survey literature can be found in Burke *et al* (2014).

On the behaviour of advisors when conflicted, the Australian Securities & Investment Commission (2006) commissioned a survey in 2005 of roughly 300 existing or new clients of 259 individual (and 102 financial services licensees) Australian superannuation advisors. They received the materials provided by the advisors to the clients as well as diaries kept (by the clients) of their meetings with advisors, feedback, personal circumstances and so on. They then assessed, as best they could, whether the advice was likely to be compliant with then-current Australian legal requirements on such advisors. They found that advice given by advisors that was "clearly or probably no-compliant" was roughly six times more common when an advisor had a conflict of interest with the client over remuneration. They also noted that, "[n]on-compliant advice was three times more likely where the advisor recommended an associated product" (p.8.)

An early experimental contribution was Cain, Loewenstein and Moore (2005) (CLM2005 henceforth) which found that the disclosure of conflict by an advisor could lead to what they termed a "moral license" effect: conflicted advisors behaved

*less* in the client's interests following disclosure than absent disclosure, "by reducing advisors' feelings of guilt about misleading [clients] and thereby giving advisors moral license to bias advice even further" (CLM2005 p.7.) Their experiment also found that clients in such cases did discount the advice received from a conflicted advisor when that conflict was disclosed, but not sufficiently to offset the moral license effect. Consequently, disclosure was worse for the clients than non-disclosure.

Church and Kuang (2009) attempt to identify factors that might mitigate these harmful effects of disclosure and construct an experimental design in which (1) clients can choose not to invest as their advisors suggest (that is, there is a well-specified 'outside option') and (2) clients can, at some cost to themselves, trigger a sanctions process on advisors that would punish the latter if they were subsequently found to have given bad advice. Their experimental results suggest that the possibility that sanctions might be imposed on advisors giving bad advice, even when it is costly for clients to trigger such sanctions, was effective in reducing the provision of bad advice (even though only 15% of their clients chose to initiate such sanctions when available and when conflicts were disclosed.) They also do not observe the moral license effect of CLM2005, in the treatments *sans* sanctions, and attribute this to the existence of the outside option, the idea being that advisors are disciplined in their behaviour by the possibility that the client will simply switch to this option.

Focussing on the behaviour of clients, Loewenstein, Cain and Sah (2011) note that disclosure can give rise to perverse behaviour. In particular, they describe what they term "insinuation anxiety" – the idea that clients experience, "discomfort turning down advisors' recommendations when a conflict has been disclosed because they fear the rejection will signal the belief that the conflict of interest has corrupted the advisor" (p.425) – as well as the possibility that clients might feel, "increased

pressure to help an advisor satisfy his or her personal interests once those interests become common knowledge" (p.425.) These results are derived from an experiment in which the advisor recommends one of two options to a client, rather than the terms on which a single option should be considered and, in this respect, there is some parallel to our experiments. The goals – and, consequently, design – of the two are very different, however.

Also looking at clients' responses to disclosure, a large survey conducted for the EC by Chater *et al* (2010) suggested that online subjects were largely insensitive to conflicts and disclosure in their sample: "online subjects hardly responded at all to disclosure of advisor remuneration" (¶599.) By contrast, laboratory subjects, taking more time over their decisions, "exhibited a strong reaction to the disclosure of biased incentives, showing evident mistrust" (¶599.) Indeed, they found that in some instances the loss of trust triggered by the disclosure of conflicted remuneration led clients to not trust conflicted advisors even in settings where the latter could not deceive them (¶601.) Chater *et al* found that consumers were frequently unaware of potential conflicts (¶588), tended to follow the advice they were given, even, "from an advisor with obviously-biased incentives" (¶589), and "struggle[d] to make optimal investment choices, even in very simplified investment tasks" (¶590).

All in all, the literature is fairly ambiguous about the consequences and likely benefits of the disclosure of conflicts of interest in financial advice settings. One thing that has been explored only partially, however, is where an advisor is recommending a choice of asset and where the extent of the conflict of interest is not known entirely to the client. Our experiment is designed to address this, amongst other things.

## 3. The Experiment

After a preliminary experiment conducted to refine our main experiment, we recruited 138 undergraduate students at the Australian National University, of whom 119 actually took part. Participants were randomly split across the roles of Advisor (A) or client (C) and were paired throughout the experiment (although they never actually met their partner.) All subjects were given a common set of preliminary instructions[1] which were read through by the experimenter and on which questions were solicited and answered. In these instructions, the following was noted (emphasis in original):

> "Please be aware that §961B(1) of the Corporations Act 2001 in Australia requires that, "[t]he provider [of financial advice] must act in the best interests of the client in relation to the advice". Both clients and advisors will be informed of this section and also know that the other has been similarly informed."

Each participant was then involved in a couple of preliminary guided exercises, to learn the nature of what was to follow, and a single question (denoted Experiment 0) designed to get some measure of risk aversion. The main experiment then involved, essentially, five repeats of four different experiments:

Experiment 1: a single asset with no conflict of interest between A and C;

Experiment 2: a single asset with conflict of interest between A and C;

Experiment 3: two assets with no conflict of interest between A and C;

Experiment 4: two assets with conflict of interest between A and C.

Finally, each pair either had A's remuneration scheme disclosed to C or not. Of the 21 experiments in which each pair was involved, one was subsequently selected at random and the pair were paid according to their performance in that instance (along with a guaranteed flat participation fee.)

The basic structure of the problem in which each A/C pair was involved was

[1] Sample instructions for participants are attached in the Appendix.

as follows. In the single asset cases, there is an asset with a known value of $20 (common knowledge.) The client's task is to make a bid, say B, for the purchase of that asset. If that bid is successful they will receive a payoff of 20-B. There is a minimum price M, however, for the asset, such that if B<M then the bid is unsuccessful and C gets nothing. In all cases, C knows that M is generated randomly from a distribution uniform on [$1.00, $15.00] (in 1-cent increments.) The advisor, however, is told the realisation of M exactly and these information sets are common knowledge across the two players. Player A, on seeing M, recommends to C a price, say R, and C then determines their bid.

In many financial advice settings an advisor will be recommending to a client what asset purchases to make and, in these instances, the prices of the assets are generally known but the values are not. For example, in recommending a share portfolio, the share prices are known to the advisor and the client and the advisor's expertise purports to relate to the underlying values of these assets. Our broad experimental structure inverts this, in making the value known to all but the appropriate price unknown to the client. The rationale for this is that we wish to preserve an approximately continuous choice variable for both the advisor (the recommended bid) and the client (the actual bid), alongside the discrete choice of asset to recommend/ bid upon.

In Experiment 1 (as described above) the advisor is also paid 20-B; that is, their remuneration scheme is identical to that of the client so there is no conflict of interest. In Experiment 2 the advisor is instead paid B-M so they have an incentive to get C to bid more; there is now a conflict of interest over the size of B. In any case in which the bid is unsuccessful (B<M) both A and C get a payoff of zero. In the disclosure sub-treatments, C is told exactly how A is recompensed.

In Experiments 3 and 4, the main thrust of our investigation, there are two assets, 1 and 2, each of which has a known value of $20 and for each of which there is an independent draw of M ($M_1$ and $M_2$) from U[$1.00, $15.00] known exactly to only A. The advisor must recommend (and C decide in light of that advice) both which asset to purchase and how much to pay for it. In both experiments the client is paid 20-B on a successful purchase (regardless of whether or not they followed A's recommendations over either asset choice or price) and zero if their bid fails. In Experiment 3 this is also the compensation scheme for A. But in Experiment 4, A is paid this *plus* a fixed amount if C successfully purchases asset 2. In the disclosure sub-treatments for these two experiments, C is told that A is paid 20-B on a successful purchase by C but, in Experiment 4, only that A has a further financial incentive to sell asset 2. In fact, the incentive is significant – it is $15 – but this magnitude is not revealed to C in any setting.

The five replications of each of these base cases involved different realisations of the underlying minimum price, M. The experiment involved no feedback from clients to advisors: the latter completed their recommendations in one sitting and these were then passed on to the clients in a separate meeting.

Experiment 0 asked the subject to suppose they were a client bidding on an asset with a value of $20 and some unknown minimum price drawn from U[$1.00, $15.00] and to write down the bid they would make in that circumstance. A highly risk-averse player could bid $15 in this case, knowing their purchase must succeed and they would get $5 with certainty. However, the lower the bid the more surplus they would make, if successful, but the riskier it is: the more likely they are to bid below the unknown minimum and thus get nothing. Letting $B_0$ denote the bid a player makes here, we consequently use ($15-B_0$) as a rough ordinal proxy for the

player's risk preference (with risk aversion decreasing in this measure.)

The role of Experiments 1 and 2 was partly to familiarise the players with the broad structure of the experiment before they got to the 2-asset case, but also to see if our subjects replicated the "moral licensing" story of CLM2005: does disclosure of conflicted remuneration lead an advisor to act *less* in the interests of their client and does it lead a client to anticipate this? The interest of the client here is always best served by a recommendation of R=M so we look at the effects of conflict and/or disclosure on both R-M (the impact on advisors) and R-B (the impact on clients.)

The conflicted remuneration case of Experiment 4 is designed to capture the idea that conflict may be related to a particular asset choice (rather than its price) and that, even with disclosure, the client is unlikely to have any idea of the quantitative significance of the conflict. We set the reward to the conflicted advisor very high – at \$15 it will always be in the best interests of the advisor that their client buy asset 2, no matter the realisations of $M_1$ and $M_2$ – so that there is little room for confusion by advisors as to their personal interest versus that of their clients.

In general, in the absence of disclosure, there is little that can be predicted about the behaviour of either clients or advisors in the abstract, even with full rationality. If C knows nothing at all of A's incentives then they might simply dismiss the advice they receive as cheap talk and ignore it, choosing some value of B consistent with the distribution of M and their attitude to risk. However, our initial instructions, by pointing to §961B(1) of the Corporations Act 2001, endeavour to anchor the clients' default attitudes to the advice they receive in belief. If that is the case, then we would anticipate B very close to R in Experiments 1 and 2 without disclosure. Similarly, we would expect the client to follow A's advice on both asset choice and price in Experiments 3 and 4 without disclosure.

With disclosure, however, there are certain clear predictions of behaviour, at least in some of these cases. First, in Experiment 1, when A's remuneration is disclosed to C, A's best interests are served by recommending R=M; C, knowing this, is best to set B=R. Second, with disclosure in Experiment 2, A has an incentive to raise their recommendation above the minimum price (i.e. R>M) and C, knowing this, has an incentive to discount the recommendation (B<R). Similarly, in Experiment 3 with disclosure, the two parties' interests are perfectly aligned and A should recommend the asset with the lowest minimum price at a price equal to that minimum and C should bid, as recommended, on that asset.

In Experiment 4 with disclosure, however, things are less clear. The client does not know the magnitude of the advisor's incentive to sell asset 2. Certainly they should follow the advice they receive if asset 1 is recommended, as that must be in their best interests if recommended by a rational A, but if 2 is recommended then the client needs to form some belief about the effects on A's recommendation of the unknown financial incentive. It is our conjecture that a recommendation of asset 2 in this case will be less likely to be followed by a client the higher is the recommended bid price for the asset. Both A and C know that A has no incentive to distort R away from M, of course, but if A recommends buying asset 2 at a high price then C should infer a high $M_2$. Given the known distribution of $M_1$, and depending on the client's attitude towards risk, they may wish to "take their chances" and bid on asset 1. In such a case, of course, we should see $B_1 \leq R_2$: even if A recommends asset 2 for self-interested reasons, they still want to recommend $R_2=M_2$ so C knows they can follow this advice and make \$20-$R_2$ for sure. If their bid on asset 1 is successful, C will make \$20-$B_1$ so it can only be optimal to ignore A's advice if $B_1 \leq R_2$.

## 4. Data and Empirical Approach

Our experiment commenced with two examples that participants were asked to consider. Each was explained and the intention was to give participants some practice and familiarity with the scenario in which they were being asked to act. Of the players cast as advisors, 67% got example 1 correct but 89% got example 2 right (61% getting both correct.) For the clients, 74% got Example 1 right, 89% example 2 and 66% both. Overall, then, while only 64% of our participants answered both questions correctly, over 89% answered the second example correctly and this may indicate learning from the explanation of the first example.[2]

As noted, participants were not only randomly assigned across roles (advisor A or client C) but also across two treatment groups. In the first treatment group, clients were not informed of the advisor's remuneration scheme (the "No Disclosure" treatment) while in the second treatment group, clients were informed (the "Disclosure" treatment). As the main focus of our experiment is on the two-asset case, our discussion henceforth is limited to that case. Nevertheless, it is worth noting here that our results in Experiments 1 and 2 do confirm the findings of CLM2005, at least partially. We found that disclosure of conflict of interest – in this case over not the choice of asset but the price to bid for the only asset under consideration – did, as in CLM2005, induce some "moral license" effect from advisors, leading them to recommend a higher price than in the absence of such disclosure. However, in our experiment this effect was completely offset by clients: as in CLM2005, disclosure of an advisor's conflict led a client to bid less than the advisor recommended but, in contrast to CLM2005, in our case this discounting was of the same magnitude as the

[2] Some preliminary exercises on Experiments 1 and 2 indicate that excluding those who failed to get example 2 correct from our analysis has no discernible impact on our results, but we have yet to run the same exercise for Experiments 3 and 4.

moral license inflation. Consequently, disclosure's effects were essentially neutral in terms of consequences for clients.

On the day of the experiment, not all of the invited participants appeared, resulting in more clients than advisors for each treatment group. To provide an advisor for each client, some advisor responses were given not just to one client but reused for a second client. Hence, in the No Disclosure treatment, data are recorded for 34 unique A/C pairs composed of 34 clients and 26 advisors where responses of eight of the advisors were used for two clients. In the Disclosure treatment, data are recorded for 31 unique A/C pairs composed of 31 clients and 28 advisors where responses of three of the advisors were reused.

Given the 65 unique A/C pairs (34 in the No Disclosure and 31 in the Disclosure Treatment) and five rounds for each of two different cases (conflict and no conflict)[3], we have 650 observations of advisor asset and bid price recommendations, the client asset choice and bid price along with the minimum acceptable purchase price, M, which differs across assets as well as across rounds and advisors.

The purpose of this study is to explore how conflict of interest and disclosure of the advisor's remuneration scheme to the client may affect advisor behaviour, client behaviour, and outcomes for the advisor and for the client. The dependent variables of interest are generated for each observation based on the above data. In particular: for advisor behaviour, we consider whether the advisor recommends asset 2 (*recommends asset 2*) and whether the advisor recommends the asset with the higher potential payoff to the client (*recommends best asset*)[4]; for client behaviour, we consider whether the clients asset choice matches the advisor's asset

[3] In what follows we will refer to the ten rounds of the two-asset experiment played by each A/C pair, comprised of 5 rounds each with and without conflicted remuneration.

[4] The asset with the higher potential payoff is the asset with the lower minimum acceptable purchase price M. Hence, bidding B equal to that asset's M would result in a higher payoff to the client than any possible bid for the other asset.

recommendation (*asset agreement*); and for outcomes, we focus on whether or not the client successfully purchases the asset (*successful purchase*) and, if the asset is successfully purchased, on the client's payment (*client payment*) and the advisor's payment (*advisor payment*).

Most of the dependent variables of interest are indicator variables, e.g., *recommends asset 2*, *recommends best asset*, *asset agreement*, and *successful purchase*. For those cases, a probit model will be used for estimation with the unobserved latent variable y* modelled as:

(1) $$y_{ij}^* = \alpha + \beta_1\, conflict_{ij} + \beta_2\, disclosure_i + \beta_3\, (conflict_{ij}\ x\ disclosure_i) + \boldsymbol{Z_i'}\,\boldsymbol{\delta} + \varepsilon_{ij}$$

where *i* indexes, depending on the regression, advisor *i* = 1, . . . , 54, client i=1, . . . , 65, or advisor/client pair *i* = i, . . . 65 and *j* = 1, . . . 10 indexes rounds. The observed indicator dependent variable $y_{ij}$ is linked to the unobserved latent variable by $y_{ij} = 1$ if $y_{ij}^* > 0$ and $y_{ij} = 0$ otherwise. For the probit analysis, the random error term $\varepsilon_{ij}$ is assumed to have a standard normal distribution.

On the right hand side are indicator variables to capture whether the observation is from Experiment 4 with conflict of interest (*conflict*) and whether the observation is from the Disclosure treatment (*disclosure*). We also include the interaction of those two variables. *disclosure* is only indexed by *i* and not by *j* since each advisor, client, or A/C pair *i* is assigned only to one treatment which does not vary across rounds *j*. In contrast, *conflict* is indexed by both *i* and *j* since for any advisor, client, or A/C pair *i* , some rounds *j* are under Experiment 4 ($conflict_{ij}$=1) and other rounds from Experiment 3 with no conflict of interest ($conflict_{ij}$=0).

The vector ***Z*** contains personal characteristics of the advisor and/or client participant. The characteristics that we use are whether the participant is female

(*female*) or a domestic student (*domestic*). In addition, we generate a rough measure of risk aversion (*risk preference*), as explained above, defined as 15 less what the participant bids in Experiment 0. The inclusion of $\boldsymbol{Z}$ is to capture the possible influence of gender, ethnicity, or risk attitudes in participant behaviour.

Two of the dependent variables (*client payment* and *advisor payment*) are continuous. For those variables, the empirical analysis will rely on linear regression rather than a probit framework. Thus, instead of estimating Equation (1) with an unobserved latent variable $y_{ij}$* , the left hand variable will be an observed continuous variable $y_{ij}$ . Table 1 of the Appendix provides summary statistics for all variables involved in Equation (1).

Our empirical analysis yields, *inter alia*, estimates of $\beta_1$ , $\beta_2$ , and $\beta_3$ and their statistical significance. But the impact of *conflict* or of *disclosure* on our dependent variables is non-linear due to the inclusion of the interaction term *conflict x disclosure* . The non-linear impact is exacerbated in the probit situation where the impact of *conflict* or of *disclosure* on the dependent variable of interest rests not only on the regression coefficients but the values of each of the right hand side variables.

To deal with that complexity in the probit setting, we will report the estimated average partial effect of a discrete change in *conflict* or in *disclosure* , e.g., when going from *conflict* = 0 (interests of clients and advisors are aligned) to *conflict* = 1 (interests are in conflict). In the case of *recommends asset 2*, we average over the partial effect for each observation in the estimation sample, say, for a discrete change in *conflict* on the predicted probability of *recommends asset 2*. To generate the predicted probabilities, each observation maintains its own values for the control variables except for *conflict.*

## 5. Empirical Results

Our analysis of the impact of conflict of interest and disclosure will first examine advisor behaviour, then client behaviour and, finally, outcomes on asset purchase and payments to the advisors and clients.

*a) Advisor Behaviour*

In Experiment 3, the interests of the advisor and the client are aligned, as the payment schemes to the two are identical. As noted, we would anticipate that the advisor would recommend to the client whichever asset has the higher potential payoff to the client, since that asset also provides the higher potential payoff to the advisor. Given the independent and identical uniform distributions for the minimum acceptable purchase price $M_i$ for assets i=1, 2, the advisors' recommendations of either asset should be equally likely. For Experiment 3 this is, indeed, the case, with asset 2 being recommended in 49.5% of the observations (where observations from both disclosure treatments are combined.)

Experiment 4 introduces conflict of interest: when the asset is successfully purchased by the client, the advisor's payoff is always greater if it is asset 2 that is purchased. For Experiment 4, asset 2 is recommended in 75.7% of the time (again combining observations across disclosure treatments.) These results strongly suggest that conflict of interest has an impact on the advisor's asset recommendation but are not able to provide any insights into the possible influence of disclosure in countering conflict of interest.

To examine simultaneously the impact of conflict of interest and disclosure, we perform a probit analysis of *recommends asset 2* with the estimation results reported in Table 2. Column (1) reports the results without including advisor

characteristics ***Z*** while column (2) includes those controls. Including those controls does not seem to have a major impact on the coefficient estimates for *conflict, disclosure,* or the interaction of the two comparing across columns. All three variables have statistically significant impacts with *conflict* and *disclosure* raising the likelihood of an asset 2 recommendation and their interaction lowering the likelihood.

It is notable and surprising that *female advisor* has a strongly statistically significant impact with a coefficient of -0.319 similar in magnitude to the coefficient of 0.361 for *disclosure*. We would not expect after controlling for *conflict* and *disclosure* that gender by itself would have influence in favouring one asset over another. Perhaps what is being picked up inadvertently are differences in the impact of *conflict* and *disclosure* across gender which could be examined more appropriately by interacting *female advisor* with those variables.

As discussed in the preceding section, the impact of *conflict* is non-linear and depends on the values of the other control variables. To capture that impact, we examine the average partial effect (APE) of a change going from *conflict*=0 to *conflict*=1. The partial effect is on the predicted probabilities of *recommends asset 2*. This effect is estimated for each observation retaining the values of the other control variables and then averaged over the observations in the estimation sample.

Using the coefficient estimates from Column 2 in Table 2, the estimated average partial effect of *conflict* is 24.4% and is strongly statistically significant (p-value<0.001). That is, moving from no conflict of interest to conflict raises the predicted probability of the advisor recommending asset 2 by 24.4 percentage points. This impact is even greater when there is no disclosure than when there is. Using only the No Disclosure treatment observations (*disclosure*=0), the APE of conflict is 33.8% while for the Disclosure treatment observations (*disclosure*=1), 14.3%. The

difference between those two APE estimates is statistically significant (p-value=2.7%).

The APE of *conflict* provides strong evidence that conflict of interest influences the advisor to recommend asset 2. Would disclosure of that conflict of interest lessen or eliminate that influence? To answer that, we examine the APE of *disclosure* averaged over the observations where there is conflict of interest (*conflict*=1). That is, given our experiment 4 where the advisor's financial interests differ from the client's, would disclosing that conflict alter the advisor's asset recommendation? Our estimated APE of *disclosure* imposes a discrete change in *disclosure* only on observations in our probit estimation sample which have *conflict*=1. Using once again the coefficients from Table 2, Column 2, the APE of *disclosure* is -8.2% but not statistically significant (p-value=0.170). While the point estimate suggests that disclosure of the advisor's conflict of interest lessens the likelihood of the advisor recommending asset 2, the relatively high p-value indicates that we cannot reject the null hypothesis that disclosure of that conflict has no impact on the advisor choosing to recommend asset 2.

Of course, even in Experiment 4 with conflict of interest, the asset with the higher potential payoff for the client may be asset 2 and not asset 1 since asset 2 may have the lower minimum purchase price. The client is ultimately more concerned about whether the advisor recommends the asset with the higher potential payoff and not whether the advisor recommends asset 2. To deal with that consideration, we now turn to our probit analysis of *recommends best asset*. Table 3 reports the estimation results of that analysis with and without controls for the advisor's personal characteristics $\boldsymbol{Z}$ in Columns (2) and (1), respectively.

As in Table 2, both *conflict* and *disclosure* in Table 3 have statistically

significant coefficients and adding the ***Z*** controls has little influence on those estimated coefficients. Those coefficients unfortunately do not capture the non-linear impacts of *conflict* and *disclosure* on the likelihood of the advisor recommending the best asset. Instead, we turn to the average partial effects calculated using the coefficient estimates from Table 3, Column 2.

The estimated average partial effect of *conflict* is -31.6% and strongly statistically significant (p-value<0.001). Clearly, introducing a conflict of interest greatly reduces the probability of the advisor acting in the client's interests by recommending the asset most advantageous to the client.

Given the advisor's conflict of interest, would the advisor behave differently if that conflict were revealed to the client and the advisor knew of that revelation, as in the Disclosure treatment? The APE of *disclosure* averaged over the observations where there is conflict of interest (*conflict*=1) is +11.4% but not statistically significant (p-value=0.138). The estimated average partial effect of disclosure, when conflict of interest is present, has a positive sign suggesting that disclosure may lead the advisor to more often pursue the client's interests. However, the relatively high p-value fails to reject the null hypothesis that disclosure has no impact.

As in the earlier analysis of *recommends asset 2*, our examination of *recommends best asset* indicates that conflict of interest does influence the advisor's asset recommendations but disclosure of that conflict does not.

*b) Client Behaviour*

While disclosure of conflict may have no impact on the advisor, does disclosure of the advisor's conflict have any influence on client behaviour? We approach that question by examining whether the client agrees with the advisor's asset recommendation.

Table 4 reports the estimates from our probit analysis of *asset agreement*. With or without controls for characteristics of clients and advisors (see Columns 2 and 1, respectively), the estimated coefficients for *conflict* and for *disclosure* are not statistically significant (although the coefficient for the interaction of the two is, albeit only weakly.) Interestingly, asset recommendations from female advisors are less likely to be accepted by clients even though clients do not know the identity of their advisor.[5]

As before, *disclosure* will have a non-linear impact and is best captured by examining the average partial effect. Using the Table 4, Column 2 coefficient estimates, the estimated APE of *disclosure* is -1.9% but not statistically significant (p-value=0.596). This effect, however, is averaged over observations with conflict as well as without. One would expect that the disclosure would impact more on the client when what is disclosed is the advisor's interest conflicts with the client's. The estimated APE of *disclosure* averaged only for observations drawn from Experiment 4, where *conflict*=1, is bigger in magnitude (-6.4%) but still not statistically significant (p-value=0.189). We conclude that disclosure of the advisor's conflict of interest does not seem to lead the client to any greater rejection of the advisor's asset recommendation.

*c) Outcomes*

So far, our analysis of the impact of conflict of interest and disclosure of that conflict is on the choices or behaviour of advisors and of clients. Our empirical results suggest that conflict of interest influences the asset recommendations of advisors but

[5] One might conjecture that female advisors, relative to male advisors, are more likely to recommend high bid prices for their recommended asset and that the high price – suggesting a high minimum purchase price – might be viewed as unlikely, leading the client to disregard the advisor's asset recommendation. However, the average recommended price by female advisors ($7.69) is actually lower than that by male advisors ($8.21).

disclosure of conflict does not seem to influence the asset decisions of either party. Even if that is correct, disclosure could nevertheless be beneficial by effecting better outcomes. For example, disclosure could increase the chance that the client successfully purchases an asset. So, if the asset is successfully purchased by the client, does disclosure lead to a higher payoff or payment for the client?

We begin by examining whether or not disclosure increases the probability of a successful asset purchase. Relative to an unsuccessful bid (i.e. $B < M$) which leads to no asset purchase and no payoff to the client or advisor, a successful bid and asset purchase is always preferred by both A and C because of the positive payoffs to both. For Experiment 3 (no conflict of interest) as well as for Experiment 4 (conflict of interest), roughly 85% of the bid prices by clients lead to a successful asset purchase. The estimates from our probit analysis of *successful purchase* can be found in Table 5. Similar to the Table 4 probit estimates for *asset agreement*, the estimated coefficients attached to *conflict* and to *disclosure* are not statistically significant, while the coefficient for the interaction of the two is significant. That is, only disclosure of conflict of interest has some empirical traction.

To capture that non-linear impact, we estimate the average partial effect of *disclosure*. Using the coefficient estimates from Table 5, Column 2 where we include controls for characteristics of advisors and clients, the average partial effect of *disclosure* averaged over all observations in our probit estimation is 2.5% but is not statistically significant (p-value=0.566). To estimate the APE of disclosure where conflict of interest is present, we average only over the observations from Experiment 4 where *conflict*=1. The APE of disclosing conflict of interest is -3.0% with a p-value=0.557. That is, disclosure of conflict of interest on average has no statistically significant impact on the likelihood of a successful asset purchase.

If the asset is successfully purchased, perhaps disclosure of conflict of interest is beneficial by resulting in higher payoffs to participants. We thus examine the impact of disclosure assuming – or conditioned on – a successful asset purchase. The linear regression results for *client payment* are reported in Table 6. Estimation is both with and without controls for the characteristics of the advisor and the client. Since the payment data has a panel construction with multiple observations *j* for each A/C pair *i*, we report random effects estimation along with pooled ordinary least squares.[6]

Across the columns of Table 6, *conflict* has a negative coefficient while *disclosure* a positive one. Both are statistically significant. Looking across the columns, the estimated coefficient attached to *conflict* is -1 or lower and statistically significant. That is, conflict of interest harms the client, lowering client payoffs by over $1 in our setting.

Using the coefficient estimate from Column (4), *disclosure* leads to a $2.78 higher payment to the client. Notice that the interaction term *closure x disclosure* does not have a statistically significant impact. Hence, the $2.78 larger client payoff applies regardless of whether disclosure of the advisor's remuneration scheme reveals a conflict of interest or not. Evidently, it is the act of disclosure, and not what is disclosed, that results in more confident client bidding with lower (successful) bids leading to higher payments for the client. Why this should be the case is unclear.

Table 7 reports the linear regression results for the *advisor payment* when the client successfully purchases an asset. Focusing on Column (4) with random effects

[6] We do not pursue fixed effects estimation since doing so would not allow estimating the disclosure impact $\beta_2$ in (1) which is of primary interest. $disclosure_i$ is fixed for any A/C pair *i* and does not vary across *j* resulting in singularity with the unobserved effect for *i*. Random effects estimation is appropriate if the unobserved effect is uncorrelated with each of the observed explanatory variables. Random effects estimation is appropriate in Table 6, Column (2). The assignment to treatment group is random across *i* and the imposition of conflict or no conflict exogenous to *i*. Hence, both $conflict_{ij}$ and $disclosure_i$ are uncorrelated with the random effect. One must impose the strong assumption that $\boldsymbol{Z_i}$ is uncorrelated with the random effect to legitimize random effects estimation in Table 6, Column (4).

estimation and including controls for advisor and client characteristics, the estimated coefficient for *conflict* is large, implying advisors receive, on average, $10.28 more when there is conflict of interest. This payment increment can be explained by the additional $15 to the advisor if the client successfully purchases asset 2 for observations from Experiment 4 where *conflict*=1. The estimated coefficient for *disclosure* is 2.991 and strongly statistically significant. The interaction term *conflict x disclosure* has a coefficient of -2.150, which is weakly statistically significant (p-value=0.077). These estimates suggest that mandating disclosure to the client of the advisor's remuneration when their interests are aligned (*disclosure*=1, *conflict*=0) results in $2.99 higher payments to the advisor. In contrast, the partial effect of *disclosure* when advisor and client interests are in conflict (*disclosure*=1, *conflict*=1) benefits the advisor by $0.84 (≈ 2.991 – 2.150) but this effect is not statistically significant (p-value=0.479).

In sum, disclosure of an advisor's conflict of interest appears to have no impact on the client's success in purchasing an asset. Any benefit of disclosure for the client lies in the payment dimension: disclosure of the advisor's remuneration scheme, regardless whether it is aligned with or opposed to the client's interests, results in higher client payments when the client asset bids are successful. For advisors, we find that disclosure when no conflict of interest exists raises the advisor's payoff. With conflict of interest, disclosure of that conflict does not result in any lower payment received by the advisor for successful asset purchases. Combined with the earlier result that disclosure of conflict of interest does <u>not</u> lead to any lower incidence of successful asset purchase suggests that conflicted financial advisors should not oppose disclosure laws.

## 5. Summary and Conclusion

Interest in the regulation of financial advising is global and increasing. Conflict of interest between advisors and clients is of considerable interest to regulators and, while most jurisdictions have requirements in various forms that advisors act broadly in the interests of their clients, recent scandals in Australia and elsewhere suggest that conflicted interests still occur and still lead to problems. Regulators frequently control the permissibility of explicit financial incentives for advisors – for example, sales commissions – and one aspect of that control is invariable a requirement that such incentives be disclosed to a client. A growing body of both theoretical and experimental evidence looks at the effects of disclosure and whether it is sufficient to undermine problematic behaviour by advisors. A more problematic area for regulators, however, is where incentives to act against a client's interests are less direct and less explicit. For example, an advisor may understand that their career prospects within an organisation are enhanced by selling financial products created by sister companies, even if such an enhancement is nowhere specified or made specific.

In this paper we report the design and results of an experiment intended to focus on the choice between assets when an advisor may have an incentive to favour one of those assets, even if it is not in the client's best interests. Furthermore, we set up the experiment such that disclosure of that conflict reveals to the client only the possible existence of the conflict and nothing of its magnitude. We find, *en passant*, that earlier results on the so-called "moral license" effect of disclosure – exacerbating improper behaviour by an advisor – are replicated in our sample but that the offsetting behaviour by clients (who discount the advice they receive from a conflicted advisor when they know about it) completely undoes this effect. In that single-asset setting in which disclosure fully informs the client about the magnitude of the advisor's

incentives, then, disclosure is neutral in its overall effects.

While the analysis of our main experiments is still incomplete, we have established a number of preliminary results. When the advisor's and clients' interests were aligned, we found that advisors recommended asset 2 roughly half the time, as they should (in expectation) given the structure of the experiment. But when the advisor had an added incentive to recommend asset 2 that recommendation rate rose to over 75% of the time. Looking more closely at this effect, we found that the probability of recommending asset 2 was raised by conflict by 34% in the absence of disclosure and only 14% when the advisor's conflict was disclosed (and known to the advisor to be disclosed) to the client. However, if we look only at the cases where there was a conflict of interest and then ask what effect disclosure has on the probability of recommending asset 2, the answer, while negative, is not statistically significant. The same exercise looking at the probability that an advisor will recommend the asset most in the client's interests yields similar qualitative results: conflict alone is significant in reducing the likelihood (by over 31%) but disclosure, while reducing that effect, is not significant.

We also find that disclosure of an advisor's conflict of interest has no significant effect on the likelihood that a client rejects the advice they receive. In this respect our findings echo the findings of Chater *et al* (2010) reported earlier in which their online survey found that clients basically did not respond to news about an advisor's conflicts.

Finally, looking at the outcomes for advisors and clients, we found that disclosure of a conflict of interest had no significant impact on the likelihood of a successful asset purchase – perhaps unsurprisingly in the light of clients' non-responsiveness to disclosure. We found, however, that, contingent on a successful

purchase, conflict alone significantly reduced the expected payoff to a client but disclosure raised it. The latter result, however, is for disclosure of the advisor's incentives alone and is not contingent on their being conflicted; this requires further investigation. Similarly, such disclosure (when the advisor is not conflicted) leads to a significant increase in the payoff to advisors too, with no significant impact in the case of conflict.

Some of these results conform with the intuition one might hold about this situation, but some require further investigation. For example, as discussed in section 3 above, one might think a client is more likely to deviate from an advisor's asset recommendation when the latter is conflicted, the client is informed of it and the adviser recommends a high price that leaves the client with little to gain. Preliminary investigations suggest that this is not the case but this, and other inquiries, are very much work in progress….

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# Appendix

TABLE 1: Variable definitions and summary statistics

| Variable | Definition | Mean | Standard Deviation |
|---|---|---|---|
| | | | |
| conflict | indicator variable: = 1 if observation from Experiment 4 with conflict of interest | 0.500 | |
| disclosure | indicator variable: = 1 if observation from Disclosure treatment | 0.477 | |
| recommends asset 2 | indicator variable: = 1 if adviser recommends asset 2 | 0.626 | |
| recommends best asset | indicator variable: = 1 if adviser recommends asset with higher potential payoff for client | 0.758 | |
| asset agreement | indicator variable: = 1 if client's asset choice matches adviser's asset recommendation | 0.911 | |
| successful purchase | indicator variable: = 1 if client successfully purchases asset | 0.852 | |
| client payment | client's payment when the client's asset purchase is successful | $11.87 | $4.10 |
| adviser payment | adviser's payment when the client's asset purchase is successful | $17.09 | $7.94 |
| female adviser | indicator variable: = 1 if adviser is female | 0.415 | |
| domestic adviser | indicator variable: = 1 if adviser is a domestic student | 0.410 | |
| risk preference adviser | 15 minus what the adviser bids in Experiment 0 | 2.95 | 2.74 |
| female client | indicator variable: = 1 if client is female | 0.462 | |
| domestic client | indicator variable: = 1 if client is a domestic student | 0.323 | |
| risk preference client | 15 minus what the client bids in Experiment 0 | 2.29 | 2.85 |

Note: Means and summary statistics calculated over the 650 observations resulting from the 65 unique adviser/client pairs each with ten rounds of adviser recommendations and client bids.

TABLE 2: Probit analysis of whether adviser recommends asset 2

Dependent variable: *recommends asset 2*

| Explanatory Variables | (1) | (2) |
|---|---|---|
| *conflict* | 0.947*** | 1.019*** |
| | (0.212) | (0.231) |
| *disclosure* | 0.257* | 0.361** |
| | (0.150) | (0.157) |
| *conflict x disclosure* | -0.561** | -0.636** |
| | (0.261) | (0.282) |
| *female adviser* | ____ | -0.014 |
| | | (0.124) |
| *domestic adviser* | ____ | -0.319*** |
| | | (0.119) |
| *risk preference adviser* | ____ | 0.016 |
| | | (0.023) |
| Log-likelihood | -332.9 | -302.3 |
| Model test | $\chi^2(3) = 26.44$*** | $\chi^2(6) = 27.75$*** |
| Number of observations | 540 | 500 |

Notes:

1. The *recommends asset 2* indicator variable coded: "1" if adviser recommends asset 2, "0" if adviser recommends asset 1.
2. Probit estimation with robust variance matrix estimator allowing for observations to be independent across but not necessarily within adviser clusters.
3. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively. Robust standard errors are shown in parentheses.

TABLE 3: Probit analysis of whether adviser recommends asset with the higher potential payoff to client

Dependent variable: *recommends best asset*

| Explanatory Variables | (1) | (2) |
|---|---|---|
| *conflict* | -0.966*** | -1.024*** |
| | (0.217) | (0.228) |
| *disclosure* | 0.865*** | 0.825*** |
| | (0.301) | (0.308) |
| *conflict x disclosure* | -0.576* | -0.527 |
| | (0.333) | (0.342) |
| *female adviser* | ____ | 0.005 |
| | | (0.197) |
| *domestic adviser* | ____ | 0.077 |
| | | (0.201) |
| *risk preference adviser* | ____ | -0.004 |
| | | (0.034) |
| Log-likelihood | -238.7 | -224.4 |
| Model test | $\chi^2(3) = 60.90$*** | $\chi^2(6) = 64.00$*** |
| Number of observations | 540 | 500 |

Notes:

1. The *recommends best asset* indicator variable coded: "1" if adviser recommends asset with the higher potential payoff for client, "0" if adviser does not.
2. Probit estimation with robust variance matrix estimator allowing for observations to be independent across but not necessarily within adviser clusters.
3. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively. Robust standard errors are shown in parentheses.

TABLE 4: Probit analysis of whether client's asset choice matches the adviser's asset recommendation

Dependent variable: *asset agreement*

| Explanatory Variables | (1) | (2) |
|---|---|---|
| *conflict* | 0.000<br>(0.139) | 0.008<br>(0.161) |
| *disclosure* | 0.047<br>(0.323) | 0.219<br>(0.314) |
| *conflict x disclosure* | -0.502*<br>(0.295) | -0.592*<br>(0.312) |
| *female adviser* | ____ | -0.432*<br>(0.234) |
| *domestic adviser* | ____ | -0.133<br>(0.257) |
| *risk preference adviser* | ____ | 0.043<br>(0.042) |
| *female client* | ____ | -0.210<br>(0.271) |
| *domestic client* | ____ | 0.031<br>(0.265) |
| *risk preference client* | ____ | -0.068<br>(0.056) |
| Log-likelihood | -332.9 | -157.40 |
| Model test | $\chi^2(3) = 7.64$* | $\chi^2(9) = 19.23$** |
| Number of observations | 650 | 580 |

Notes:

1. The *asset agreement* indicator variable coded: "1" if client's asset choice matches the adviser's asset recommendation, "0" if client's asset choice does not.
2. Probit estimation with robust variance matrix estimator allowing for observations to be independent across but not necessarily within client clusters.
3. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively. Robust standard errors are shown in parentheses.

TABLE 5: Probit analysis of whether client successfully purchases asset

Dependent variable: *successful purchase*

| Explanatory Variables | (1) | (2) |
|---|---|---|
| *conflict* | 0.147<br>(0.128) | 0.220<br>(0.145) |
| *disclosure* | -0.030<br>(0.239) | 0.421<br>(0.283) |
| *conflict x disclosure* | -0.422**<br>(0.212) | -0.568**<br>(0.274) |
| *female adviser* | ____ | -0.694***<br>(0.198) |
| *domestic adviser* | ____ | -0.418*<br>(0.228) |
| *risk preference adviser* | ____ | 0.002<br>(0.038) |
| *female client* | ____ | -0.220<br>(0.250) |
| *domestic client* | ____ | 0.112<br>(0.326) |
| *risk preference client* | ____ | -0.134***<br>(0.039) |
| Log-likelihood | -268.4 | -210.6 |
| Model test | $\chi^2(3) = 5.23$ | $\chi^2(9) = 42.13$*** |
| Number of observations | 650 | 580 |

Notes:

1. The *successful purchase* indicator variable coded: "1" if client successfully purchases asset, "0" if client is unsuccessful.
2. Probit estimation with robust variance matrix estimator allowing for observations to be independent across but not necessarily within client clusters.
3. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively. Robust standard errors are shown in parentheses.

TABLE 6: Linear regression of client's payment when asset purchase successful

Dependent variable: *client payment*

| Explanatory Variables | OLS<br>(1) | Random Effects<br>(2) | OLS<br>(3) | Random Effects<br>(4) |
|---|---|---|---|---|
| *conflict* | -1.028*<br>(0.559) | -1.026*<br>(0.561) | -1.226*<br>(0.609) | -1.243**<br>(0.608) |
| *disclosure* | 2.766***<br>(0.690) | 2.678***<br>(0.693) | 2.957***<br>(0.651) | 2.783***<br>(0.670) |
| *conflict x disclosure* | 0.318<br>(0.885) | 0.402<br>(0.870) | 0.188<br>(0.844) | 0.306<br>(0.824) |
| *female adviser* | ____ | ____ | 0.420<br>(0.608) | 0.357<br>(0.596) |
| *domestic adviser* | ____ | ____ | -0.073<br>(0.576) | -0.078<br>(0.590) |
| *risk preference adviser* | ____ | ____ | -0.021<br>(0.087) | -0.021<br>(0.088) |
| *female client* | ____ | ____ | -0.185<br>(0.540) | -0.171<br>(0.549) |
| *domestic client* | ____ | ____ | -0.096<br>(0.589) | -0.109<br>(0.599) |
| *risk preference client* | ____ | ____ | -0.009<br>(0.106) | 0.017<br>(0.108) |
| *R*-squared | 0.1409 | 0.1409 | 0.1673 | 0.1670 |
| Model test | F(3,64) =<br>12.38*** | $\chi^2(3)$ =<br>35.73*** | F(9,57)) =<br>5.79*** | $\chi^2(9)$ =<br>47.87*** |
| Number of observations | 554 | 554 | 494 | 494 |

Notes:

1. The *client payment* variable is equal to the client's payment when the asset purchase is successful, i.e., $20 less the client's successful bid B.
2. Estimation with variance matrix estimator allowing for observations to be independent across but not necessarily within client clusters.
3. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively. Robust standard errors are shown in parentheses.

TABLE 7: Linear regression of adviser's payment when client's asset purchase is successful

Dependent variable: *adviser payment*

| Explanatory Variables | OLS<br>(1) | Random Effects<br>(2) | OLS<br>(3) | Random Effects<br>(4) |
|---|---|---|---|---|
| *conflict* | 10.420***<br>(0.717) | 10.401***<br>(0.723) | 10.317***<br>(0.791) | 10.281***<br>(0.795) |
| *disclosure* | 2.766***<br>(0.690) | 2.715***<br>(0.696) | 3.140***<br>(0.635) | 2.991***<br>(0.644) |
| *conflict x disclosure* | -1.662<br>(1.242) | -1.645<br>(1.246) | -2.176<br>(1.217) | -2.150<br>(1.216) |
| *female adviser* | ____ | ____ | 0.356<br>(0.854) | 0.066<br>(0.863) |
| *domestic adviser* | ____ | ____ | -0.849<br>(0.747) | -0.833<br>(0.761) |
| *risk preference adviser* | ____ | ____ | -0.005<br>(0.126) | -0.015<br>(0.131) |
| *female client* | ____ | ____ | -0.096<br>(0.793) | -0.075<br>(0.816) |
| *domestic client* | ____ | ____ | 0.384<br>(0.803) | 0.388<br>(0.831) |
| *risk preference client* | ____ | ____ | -0.031<br>(0.140) | 0.012<br>(0.141) |
| *R*-squared | 0.3831 | 0.3831 | 0.3751 | 0.3746 |
| Model test | F(3,64) =<br>99.86*** | $\chi^2(3)$ =<br>294.80*** | F(9,57)) =<br>34.48*** | $\chi^2(9)$ =<br>306.04*** |
| Number of observations | 554 | 554 | 494 | 494 |

Notes:

1. The *adviser payment* variable is equal to the adviser's payment when the client's asset purchase is successful.
2. Estimation with variance matrix estimator allowing for observations to be independent across but not necessarily within adviser/client pair clusters.
3. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively. Robust standard errors are shown in parentheses.

**Sample Personal Information Sheet provided to participants**

**ADVISER NUMBER:** ☐

***Personal Information***

**Please print legibly below.**

**NAME:** ☐

**PREFERRED E-MAIL:** ☐

**STUDENT NUMBER:** ☐

**GENDER IDENTIFICATION (e.g. Female):** ☐

**AGE IN YEARS:** ☐

**UNIVERSITY STUDENT STATUS (circle appropriate answers):**

**Full-time** **Part-time**

**First year** **Later year**

**Domestic** **International**

**College(s) of current degree:**

**CASS CAPS CBE CECS CoL CMBE CPMS**

*******

**PLEASE TICK THIS BOX IF YOU WOULD LIKE TO RECEIVE A COPY OF THE RESULTS OF THESE EXPERIMENTS, WHEN AVAILABLE:** ☐

**If you do check this box we will retain only your e-mail in a separate data base so that we can send you the results when available.**

### *Example 1*

In the example case a), the Adviser would receive $ ____

and the Client would receive $ ____.

In the example case b), the Adviser would receive $ ____

and the Client would receive $ ____.

---

### *Example 2*

In the example case a), the Adviser would receive $ ____

and the Client would receive $ ____.

In the example case b), the Adviser would receive $ ____

and the Client would receive $ ____.

---

### *Experiment 0*

0. Experiment 0: I would bid $ ____ for this asset.

**Sample Information and Questions Sheet provided to participants**

**ADVISER AND CLIENT NUMBER:** [ ]

***Advising experiment – instructions T2A***

You have in front of you a single sheet of paper labelled "*Personal Information*" on the front and an envelope that contains a booklet of papers. Please do NOT open the envelope yet. You have been assigned an adviser/client pair number and each of these documents has been labelled with it. Please provide the optional personal information asked for in the boxes provided on the front of the single sheet only – this will be used in full confidentiality in the analysis of our results and will also enable us to identify you for your subsequent cash payment. Do this now.

In the financial adviser/client experiments that follow, one person plays the role of a financial adviser, is given some information about one or two assets that a client may wish to buy and then provides advice to another person playing the role of the client. Across the different experiments, each adviser-client pair will remain the same, although they will not meet each other face to face. You will be given an answer booklet in which you will write your decisions.

Please be aware that §961B(1) of the Corporations Act 2001 in Australia requires that, "[t]he provider [of financial advice] must act in the best interests of the client in relation to the advice". Both clients and advisers will be informed of this section and also know that the other has been similarly informed.

Before running the main advisory/client experiments, a preliminary experiment will be run where you are a potential buyer of an asset.

We will conduct the experiments and their rounds in sequence and we want all participants to be synchronised so please only turn the pages of this document and the answer booklet when you are asked to do so by the researcher.

If you have any questions at this stage, please raise your hand and a researcher will help.

Please do not turn the page until instructed to do so.

*Example 1*

Before we get started, we will try two examples to ensure you understand the structure of these experiments.

- In each example, there is an Adviser, a Client, and a single asset for purchase. Both the Adviser and the Client know the asset has an actual value of $20 and the Adviser is going to make a recommendation to the Client regarding how much the Client should bid for this asset: the lower the price the client can pay for the asset, the better off the client will be.
- But there's a catch: there is a minimum price for the asset and if the Client offers less than that amount, they will not succeed in buying the asset. The Adviser is told the minimum price before making a recommendation to the Client.
- Now, while the Adviser knows this minimum price exactly, the Client knows only that the minimum price is somewhere between $1.00 and $15.00 inclusive, all prices within that range being equally likely.
- In this example both the Adviser and the Client will be paid the difference between the asset's true value of $20 and what the Client bids for it. That is, they are paid

  $$\$20 - B$$

  where B is the bid that the Client actually makes, *so long as the bid is successful*. As noted, if the bid B is less than the minimum purchase price M (which is unknown to the Client) then the bid is rejected and both the Adviser and the Client will get zero.
- Suppose the minimum price of the asset in this first example is

  $$M = \$12.45$$

Imagine that the Adviser in this example recommends that the Client bid $15.50 for the asset.

a) First, suppose the Client actually bids $15.00. What will be the payoffs to the Adviser and the Client in this case? Please write your answer carefully and legibly in the box provided for the example part a) on the "Example" section on the reverse of the Personal Information sheet.

b) Second, suppose the Client actually bids $11.50. What will be the payoffs to the Adviser and the Client in this case? Please write your answer carefully and legibly in the box provided for the example part b) on the "Example" section on the reverse of the Personal Information sheet.

Please do not turn the page until instructed to do so. The researcher will discuss this example before we continue. Please do not change any of your answers after hearing the correct payoffs.

*Example 2*

Let's try one more example to ensure you understand what you will be doing in these experiments.

- Again, consider a case with an Adviser, a Client, and a single asset for purchase. Both the Adviser and the Client know the asset has an actual value of $20 and the Adviser is again going to make a recommendation to the Client regarding how much the Client should bid for this asset: the lower the price the client can pay for the asset, the better off the client will be.
- As before, the Adviser will know the asset's minimum price exactly, but the Client knows only that the minimum price is somewhere between $1.00 and $15.00 inclusive, all prices within that range being equally likely.
- Once more, both the Adviser and the Client will be paid the difference between the asset's true value of $20 and what the Client bids for it. That is,

  $20 - B

  where B is the bid that the Client actually makes, *so long as the bid is successful*. If the bid B is less than the minimum purchase price M (which is unknown to the Client) then the bid is rejected and both players will get zero.
- So everything is the same as it was in the previous example. But suppose that the minimum price of the asset in this second example is

  M = $7.50

Imagine that the Adviser in this example recommends that the Client bid $7.50 for the asset.

c) First, suppose the Client actually bids $7.50. What will be the payoffs to the Adviser and the Client in this case? Please write your answer carefully and legibly in the box provided for the example part a) on the "Example 2" section on the reverse of the single sheet.

d) Second, suppose the Client actually bids $11.50. What will be the payoffs to the Adviser and the Client in this case? Please write your answer carefully and legibly in the box provided for the example part b) on the "Example 2" section on the reverse of the single sheet.

Please do not turn the page until instructed to do so. The researcher will discuss this example before we continue. Please do not change any of your answers after hearing the correct payoffs.

*Experiment 0*

Before we get onto the adviser/client experiments, we will undertake a preliminary experiment. Suppose, for this experiment, that you are a potential buyer of an asset, rather than an adviser to a buyer. There is a single asset you may bid for and its value is $20. If you bid some amount B and you successfully acquire the asset then you will receive the net value or sum

$20 - B

For example, if you bid $5.28 and were successful you'd get $20 - $5.28 = $14.72; if you bid $12 and were successful you'd get $8 and so on.

There is, however, a minimum acceptable purchase price for this asset – call it *M* – such that if you bid less than this, you will not succeed in acquiring the asset. So, for example, if you bid $7.08 and the minimum acceptable purchase price *M* is $7.15, your bid is rejected and you are unsuccessful in purchasing the asset. You receive no extra payment for this experiment beyond your guaranteed participation payment.

The value for *M* has been randomly determined but you do not know what it is. We will tell you, however, that it lies somewhere between $1.00 and $15.00 inclusive, and that all values in that range are equally likely.

Please write your bid carefully and legibly in the box provided for Experiment 0 on the "*Experiment 0*" section on the reverse of the single sheet. Please do not turn the page until instructed to do so.

**For the rest of the experiments you will play the role of a financial adviser.**
You have been paired with someone who will play the role of your client.

In ALL that follows, there are several common features (to most of which you have already been exposed in Examples 1 and 2.) In particular,

- Every asset you might recommend for purchase has a true value of $20 and this is known both to you and to your client.
- The minimum price of an asset is some number M and, in order to successfully purchase the asset, your client must offer a bid at least as big as M.
- While you will always know what M is in every experiment, the client will know only that, in each round, the minimum price is some price between $1.00 and $15.00 inclusive, all prices within that range being equally likely. But, importantly, they will always know that you know M exactly. Basically, you are better informed than is the client and you both know that.
- Your role is to advise the client on what to do. Your client, however, does not have to follow your recommendations if they do not wish to.
- The client will always be paid the value of the asset minus what they bid for it. That is, they'll be paid

  $20 - B

  where B is the bid that the client actually makes, so long as the bid is successful. If the bid is not successful, i.e. if B is less than the minimum price M, then the client receives nothing.

*Experiment 1*

- In this experiment there is a single asset for purchase (its value is $20, remember, and this is known both to you and to your client.)
- The minimum price of this asset is some amount M and, while you will be told this in each round of the experiment, the client will know only that, in each round, the minimum price is some price between $1.00 and $15.00 inclusive, all prices within that range being equally likely.
- Remember that the client gets paid $20 - B and the bid will be successful only if it is equal to or greater than the minimum acceptable purchase price M. If the bid B is less than the minimum purchase price M, then the bid is rejected and both you and the client will get zero.
- In this experiment you will be paid exactly the same as the client: you'll get the value of the asset less what your client bids for it, so long as $B \geq M$; otherwise you get zero. That is, you'll be paid

  $20 - B

  so long as the bid is successful.
- Note: The client knows you will be paid $20 - B, so long as the client's bid is successful.

*Experiment 1, Round 1*

Suppose that M = ☐

Remember that if the client's bid B is successful, i.e. at least as big as M, then both you and the client are paid $20-B; otherwise you both get zero; and that the client knows how you are paid.

Please write your recommended bid for the client carefully and legibly into the ADVISER answer box on the first sheet of the *Experiments* booklet for *Experiment 1, Round 1*. Please do not turn the page until instructed to do so.

*Experiment 1, Round 2*

Suppose that everything is the same as in the previous round except that M = ☐

Remember that if the client's bid B is successful, i.e. at least as big as M, then both you and the client are paid $20-B; otherwise you both get zero.

Please write your recommended bid for the client carefully and legibly into the ADVISER answer box on the next sheet of the *Experiments* booklet for *Experiment 1, Round 2*. Please do not turn the page until instructed to do so.

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*Experiment 2*

In this experiment everything is as before – there is a single asset for purchase worth $20 (known to both you and your client) with a minimum acceptable purchase price of M (known to you but not your client) – but the way you are paid is different.

In the next five rounds of this experiment you will be paid the difference between what the client bids and the minimum purchase price. That is, you will be paid

B - M

where B is the bid that the client actually makes, so long as the bid is successful (i.e. so long as B is at least as big as M.) If the bid is not successful you will be paid nothing.

Important Note: the client knows you will be paid B - M, so long as the client's bid is successful, and zero otherwise.

*Experiment 2, Round 1*

Suppose that M = ☐

Remember that if the client's bid B is successful, i.e. at least as big as M, then your client will be paid $20-B and you will be paid B-M; otherwise you both get zero.

Please write your recommended bid for the client carefully and legibly into the ADVISER answer box on the next sheet of the *Experiments* booklet for *Experiment 2, Round 1*. Please do not turn the page until instructed to do so.

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*Experiment 3*

- In this experiment there are <u>two assets</u> available, of which the client may bid on only one. Both you and your client know that the value of each asset is $20.
- The minimum price of asset one is some number $M_1$ and the minimum price of asset two is some number $M_2$ and, while you will know both of these numbers exactly, the client will again only know that $M_1$ lies somewhere between $1.00 and $15.00 inclusive, with all values being equally likely, and that $M_2$ also lies somewhere between $1.00 and $15.00 inclusive, with all values being equally likely. They understand that $M_1$ and $M_2$ are independent and unrelated.
- In each round of this experiment, you must recommend to your client: 1) which one of these two assets they should bid on, and 2) how much they should bid for it.
- Whether they accept your advice or not, their bid B on their chosen asset will be successful only if it meets or exceeds that particular asset's minimum price. If it does then they will receive a payoff of $20 - B for that asset.
- You too will get the same payoff of $20 - B, whether the client follows your recommendation or not.
- If they bid less than the minimum price for their chosen asset, both you and they will get paid nothing.
- Note: <u>the client again knows how you will be paid</u> i.e. that you'll get $20 - B for the asset they purchase, so long as their bid is successful, and zero otherwise.

*Experiment 3, Round 1*

Suppose that $M_1$ = ☐ and $M_2$ = ☐

Remember that if the client's bid B is at least as big as M for the asset on which the client bids, then the client's bid is successful and both you and the client are paid $20-B. Otherwise you both get zero.

Please write your recommended asset for the client to bid on and your recommended bid for the client carefully and legibly into the ADVISER answer boxes on the next sheet of the *Experiments* booklet for *Experiment 3, Round 1*. Please do not turn the page until instructed to do so.

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*Experiment 4*

In this experiment everything is as before – there are two assets for purchase worth $20 (known to both you and your client) with a minimum acceptable purchase price of $M_1$ and $M_2$ respectively (known to you but not your client) and you must recommend both an asset to purchase and how much to pay for it – but the way you are paid is different.

As before, whether the client accepts your advice or not, their bid B on their chosen asset will be successful only if it exceeds that asset's minimum price. If it does, then they will receive a payoff of $20 - B for that asset. You too will get the same payoff of $20 - B, whether the client follows your recommendations or not. If they bid less than the minimum price for their chosen asset, both you and they will get paid nothing.

So far this is the same structure as in the preceding rounds of *Experiment 3*.

- However, in this experiment, on top of the payoffs just mentioned (i.e., $20 - B for a successful client bid B and $0 if the client's bid is unsuccessful), you will receive an additional payment of $15 if the client bids for and successfully purchases asset two. The extra $15 payment is only for successful client purchases of asset two, not asset one.

Note: The client knows that you will be paid $20 - B for the asset they purchase, so long as the client's bid is successful, and they also know that you will receive an extra, positive, payment if they buy asset 2. However, they do NOT know the size of that extra payment.

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*Experiment 4, Round 5*

Suppose that everything is the same as in the previous round except that

$M_1$ = [ ] and $M_2$ = [ ]

Remember that if the client's bid B is at least as big as M for the asset on which the client bids, then the client's bid is successful; both you and the client are paid $20-B and you will also get an extra $15 if this happens to be asset 2. Otherwise you both get zero. Remember, too, that the client knows how you are paid but doesn't know the size of your bonus if they successfully buy asset 2.

Please write your recommended asset for the client to bid on and your recommended bid for the client carefully and legibly into the ADVISER answer boxes on the next sheet of the *Experiments* booklet for *Experiment 4, Round 5*. Please do not turn the page until instructed to do so.

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That's it – the experiments are done! Please do not leave until the researcher tells you to do so. He or she will give you instructions regarding your payment. Thanks for your help!

N.B. PLEASE DO NOT DISCUSS THIS EXPERIMENT WITH ANYBODY UNTIL AFTER 4PM TODAY!!