Journal of Economic Behavior and Organization 000 (2018) 1–17

Contents lists available at ScienceDirect

Journal of Economic Behavior and Organization

journal homepage: www.elsevier.com/locate/jebo

Can a bonus overcome moral hazard? Experimental evidence from markets for expert services☆

Vera Angelova[a,*], Tobias Regner[b]

[a] Department of Economics and Management, Technische Universität Berlin, Strasse des 17. Juni 135, Berlin D-10623, Germany
[b] Department of Economics, Friedrich Schiller Universität Jena, Carl-Zeiß-Str. 3, Jena D-07743, Germany

ARTICLE INFO

Article history:
Received 19 February 2018
Revised 25 July 2018
Accepted 29 July 2018
Available online xxx

JEL classification:
C91
D03
D82
G20
I11

Keywords:
Asymmetric information
Principal–agent
Expert services
Deception game
Sender–receiver game
Reciprocity
Reputation
Experiments
Voluntary payment
Competition

ABSTRACT

Interactions between players with private information and opposed interests are often prone to bad advice and inefficient outcomes, e.g. markets for financial or health care services. In a deception game we investigate experimentally which factors could improve advice quality. Besides advisor competition and identifiability, we add the possibility for clients to make a voluntary payment, a bonus, after observing advice quality. While the combination of competition and reputation concerns achieves the highest rate of truthful advice, we observe a similar effect, when the bonus is combined with one of them. Thus, our results suggest that a voluntary component can act as a substitute for either competition or reputation, decreasing moral hazard.

1. Introduction

Moral hazard on the financial market is detrimental for consumers. Empirical evidence from the US shows that mutual funds offering higher broker commissions attract the most investments. However, higher commissions are related to lower

☆ We would like to thank two anonymous referees, audiences at the University of California San Diego, Rady School of Management, the University of Southern California, Linnaeus University, Friedrich Schiller University Jena, the Alfred Weber Institute at the University of Heidelberg, the CRC 649 Economic Risk at Humboldt University Berlin, and IMEBESS 2015/Toulouse for their feedback. We are grateful to Radosveta Ivanova-Stenzel, Oliver Kirchkamp, Marco Kleine, Tobias König, and Pauline Vorjohann for valuable comments. David Füssler provided excellent research assistance. Vera Angelova gratefully acknowledges financial support by Deutsche Forschungsgemeinschaft through CRC TRR 190 "Rationality and Competition" and support from the Berlin Centre for Consumer Policies.

* Corresponding author.
E-mail addresses: vera.angelova@tu-berlin.de (V. Angelova), tobias.regner@uni-jena.de (T. Regner).

https://doi.org/10.1016/j.jebo.2018.07.016
0167-2681/

investment performance (Christoffersen et al., 2013). Clients in Germany lose 50 billion euros per year due to misleading financial advice (Welt, 2012). According to Mullainathan et al. (2012) retail financial advisors tend to give self-serving portfolio recommendations. An audit study focusing on the Indian life insurance market reports that life insurance agents recommend strictly dominated products which yield high commissions in up to 90% of the cases (Anagol et al., 2017). These market inefficiencies are due to asymmetric information (uninformed clients) and commission steering by funds (see Inderst and Ottaviani, 2012). In similar fashion, the health care sector which accounts for 15% of GDP in OECD countries (OECD, 2016) suffers from moral hazard and efficiency losses caused by information asymmetries.

Which factors could contribute to experts providing better advice and, in turn, to increased market efficiency?[1] We design a laboratory experiment to analyze the stylized relationship between expert advisors and clients in a controlled setting. As our experimental framework we use a deception game (Gneezy, 2005). We augment it with market forces (competition, the possibility to build reputation) and allow a voluntary action of the client, for instance, a bonus payment (at the end of the transaction after feedback about quality of advice has been provided).

The key innovation of our design is to test whether a voluntary component can be a remedy against moral hazard, on its own and in interaction with instruments that have been studied before (competition and reputation). Huck et al. (2012) use a binary-choice trust game to analyze experience goods markets. They conclude that reputation based on quality provided in the past enhances trust and that competition reinforces this effect. Dulleck et al. (2011) analyze the richer framework of credence goods.

We use a 2x2x2 (competition, identifiability, option to pay a bonus) between-subjects design and model advice as an experience good. Its quality is unknown ex-ante but ex-post the client finds out whether the advice was good or bad. In reality, the quality of financial or medical advice may not be immediately observable. However, if clients do not need to solicit advice often, such that enough time can pass before their next decision is up, they may well be able to assess advice quality. Our design addresses this type of situations. Think of special medication that requires some time to show an effect but at the same time is only needed with low frequency. Likewise, in financial advice after some years a client will be able to compare the returns from a recommended long-term investment plan to the interest rate of a savings account or to a friend's portfolio (assuming similar risk structure). Moreover, we focus on markets where clients' access to advisors' past behavior is limited to own past observations, in contrast to centralized market platforms that allow easy access to an online history of transactions (e.g., ebay or Amazon).

Without competition, we find a significant increase in the rate of truthful advice when a bonus can be given and advisors are identifiable. With competition, the rate of truthful advice is higher when a bonus can be given or when advisors are identifiable. Thus, the rate of truthful advice increases when multiple opportunities to reciprocate exist. This can be achieved in the time or client dimension. Identifiability leads to several client-advisor interactions over the course of the game and competition allows one advisor to have several clients who may reciprocate within one period.

Our results confirm previous findings in Huck et al. (2012): the combination of competition and reputation concerns achieves the highest reduction of opportunistic behavior. However, in real life settings implementing competitive environments or reputation mechanisms may not always be possible. Therefore, our results suggest that when one of these market forces is absent, a voluntary component can act as a substitute for it, decreasing moral hazard. In reality, the bonus could be thought of as any voluntary act that is costly to the client but would benefit the advisor as, e.g., spreading the word about the advisor on an online feedback platform or to family/friends.

The next section discusses the related literature. In Section 3 we explain our experimental set-up, and state our behavioral predictions. In Section 4 we present the results and discuss them. Section 5 concludes.

2. Related literature

Huck et al. (2012), henceforth HLT, use a repeated binary-choice trust game to analyze the effects of reputation and competition in a market for an experience good. They vary the extent with which trustors are informed about past behavior of trustees. There is either no, private (i.e. only about trustees a trustor has interacted with in the past) or public information (i.e. about all past interactions of all trustees). Moreover, trustors are either exogenously matched with a trustee (no-competition-treatment) or they can choose their preferred trustee based on her reputation (competition-treatment). HLT find that reputation enhances trust (but no difference between private and public information) and that reputation combined with competition eliminates the trust problem almost completely.[2]

Dulleck et al. (2011), henceforth DKS, study the effect of institutions (liability, verifiability), market forces (competition, reputation), and combinations of these on the provision of credence goods. In DKS's setting clients are uncertain about the quality they need. Sellers know what clients need, can offer either a low or high quality product (at a low or high cost) and charge either a low or a high price. After the transaction, buyers only learn whether quality was sufficient. With credence goods sellers can exploit clients in three ways, and DKS allow for all of them: undertreatment (providing insufficient quality), overtreatment (providing quality that is not necessary), and overcharging (charging for a quality that was

[1] See Angelova and Regner (2013), Section 2, for the connection between advice quality and efficiency in the market of financial intermediaries.

[2] Also Huck et al. (2016a) study markets for experience goods. They focus on the effects of price regulation and price competition. Buyers have full information about the quality provided by each seller in the past. Since we do not deal with price regulation and have implemented private and not public information, our study is only marginally related to theirs.

Please cite this article as: V. Angelova, T. Regner, Can a bonus overcome moral hazard? Experimental evidence from markets for expert services, Journal of Economic Behavior and Organization (2018), https://doi.org/10.1016/j.jebo.2018.07.016