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**Cognitive bias in the judgment of business valuations and valuers :
how systematic patterns of irrationality affect entrepreneurs, legal
professionals and business valuers**

Broekema, M.J.R.

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Author: Broekema, M.J.R.

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What makes the bias particularly pernicious is that we all recognize this bias in others but not in ourselves.

– Richard H. Thaler –

Judges, trustees and others in the legal professions, are frequently confronted with divergent views on the outcome of a business valuation. In these situations, they have to form an opinion, and ideally judge the valuation on the basis of the valuator's advice including on the (correct) application of the selected valuation method. In this experimental study (N=272) we examine the relationship between three cognitive biases and legal professionals' opinions concerning valuations and valuat-ors in the sale of an insolvent company. We find that legal professionals judge both valuations and valuat-ors based on (1) the degree of perceived similarity with the valuator (i.e., similarity bias), in the sense that the higher the perceived similarity the more positive the valuator and the valuation are judged, (2) the outcome of the deal (i.e., outcome bias), in the sense that valuat-ors were perceived more negatively after a bad deal, and (3) the valuator's gender (i.e., gender bias), in the sense that male legal professionals place more trust in the ability of a male valuator while female legal professionals did not show this gender bias. We discuss the implications for theory and legal practice.

3.1 INTRODUCTION

Non-aligned or competing interests are plentiful and omnipresent in disputes over the value of a business. Consider, for example, the transfer of shares following a shareholder dispute, where the parties disagree about the (loss of) share value, resulting from an unlawful act by a shareholder, where shareholders disagree about the amount of damage that has arisen. Likewise, tax authorities can disagree on the value of a specific company after shares have been transferred within a family circle, or creditors may disagree with company owners over the value of the distressed company when a debt-for-equity swap is proposed in an out-of-court workout deal.

Such disputes not infrequently follow on from divergent views on the fairness of the valuation and/or the quality of the valuator. Even when the value of the shares is determined by a valuator using industry-accepted methods, different stakeholders can still perceive the exact same valuation differently; one stakeholder can consider the valuation too high, another as it being too low. As Dukes (2001, p. 130) observed, "Without transactions between a willing buyer and a willing seller, there must be a way to satisfy

the requirement of fairness.” Since ‘fairness’ is a rather subjective concept, practice shows that we are still a long way from finding solutions to minimize disputes arising from a business valuation.

There have been numerous litigations involving business valuations, making them the subject of lengthy and costly legal proceedings. For example, in 2017, the Delaware Court of Chancery in the United States of America (i.e., a non-jury trial court specialized in settling disputes involving fairness decisions for different types of business entities) produced more than 230 opinions and orders, involving (among others) companies listed on the New York Stock Exchange and NASDAQ (“Opinions and Orders,” 2018). In Europe, where commercial courts settle complex, international, commercial disputes involving legal and financial experts, the number of civil cases brought to court has also been significant. For instance, in 2005, 17 Dutch courts appointed 205 financial expert witnesses in total; this figure did not even include experts appointed by the litigants (De Groot & Elbers, 2008). Disputes involving business valuations are numerous and often brought into the legal domain.

There is a tendency to solve domestic and cross-border disputes by using alternative methods instead of going to court. Methods such as arbitration, binding advice procedures, or business mediation are becoming more popular, possibly as a result of the speed at which a dispute can be solved, or the globalization of trade and investments requiring decisions independent from national justices. Nonetheless, in alternative dispute resolutions, many legal professionals (e.g., attorneys, trustees, tax lawyers) are involved. Hence, legal professionals are also frequently confronted with cases involving business valuations, in or out of the courtroom.

Although it is to be expected that differences of perception and opinion towards a business valuation predominately occur among individual stakeholders and their lawyers, in many cases legal professionals such as judges and trustees are also confronted with complex valuation issues. In these situations, legal professionals have to form an opinion on the business valuation and, ideally, they judge the valuations solely on the basis of the correct application of the selected valuation method. The tried and tested methods, such as the widely accepted Discounted Cash Flow (DCF), are however vulnerable to ‘errors’ in the associated inputs (Bancel & Mittoo, 2014), and sensitive to underlying (valuation) assumptions (e.g., Ben-David et al., 2007; Cassia, Plati, & Vismara, 2007; Damodaran, 2006b; Green, Hand, & Zhang, 2016; Oded & Michel, 2007; Steiger, 2008). This makes a business valuation a highly technical exercise requiring advanced quantitative and financial skills. The question arises whether legal professionals are really capable of judging a valuation on its own merit, as they are usually not formally trained or qualified in the field of business valuation. Still, legal professionals (have to) form opinions on valuations and valuers.

Given that judging a business valuation on its technical accuracy is a complex process, we investigated on which grounds – other than the actual quality of a valuation or valuator – legal professionals (either as a represen-

tative of a stakeholder, or as a representative of the court) evaluate valuers and their valuations. Specifically, we aimed to examine whether cognitive biases can influence the way in which both valuers and valuations are perceived by legal professionals. Importantly, we did not seek to investigate whether valuations (i.e., the valuation inputs) as such were affected by cognitive biases, but we investigated whether perceptions of business valuations and valuers could be affected. In this way, we sought to add to the existing literature on heuristics and biases in judicial proceedings by examining cognitive biases in a business valuation context. This specific legal context, which to our knowledge has thus far not received any research attention, is important as legal professionals frequently have to deal with complex financial and technical matters requiring specialized knowledge. Biased perceptions of a valuator or a valuation outcome may play a role in producing erroneous legal judgments and, consequently, bring considerable financial and/or emotional harm to the parties involved.

3.2 THEORY AND HYPOTHESES

The effects of heuristics and biases on decision making are widely recognized across a range of business contexts. For example, in financial markets, the behavior of the market is characterized by selling winning stocks too early and holding losers too long as people are reluctant to realize losses (i.e., the disposition effect; Shefrin & Statman, 1985). Moreover, security markets show under- and overreaction as a result of investor overconfidence and biased self-attribution, i.e., attributing successes to personal skills and failures to factors beyond their control (e.g., Daniel et al., 1998). In the context of a business valuation, overconfidence of investors typically results in overvaluing the value of a particular firm (e.g., Nikolic & Yan, 2014). Ample evidence thus exists to support the notion that humans are influenced by biases when making financial decisions.

While a great deal of research has been conducted on cognitive bias in legal decision making, such as in discrimination and equal employment opportunity (e.g., Krieger, 1995), tort law (e.g., Peters Jr., 2000; Robbenolt & Studebaker, 1999), and lawmaking (e.g., Eskridge & Ferejohn, 2002), little is known about how biases affect legal professionals in the context of disputes involving business valuations. Given the clear research interest for biases in the fields of both financial decision-making (e.g., Adebambo & Yan, 2018; Anderson, Lowe, & Reckers, 1993; Daniel & Hirshleifer, 2015; Daniel et al., 1998) and legal decision-making (Englich & Soder, 2009; Helm, Wistrich, & Rachlinski, 2016) we suspect that biases can affect the way in which legal professionals perceive and judge business valuations and valuers. As such, we focus on three well-known cognitive biases: similarity bias, outcome bias, and gender bias, of which the existence has been established in the legal decision-making literature (e.g., Gardner et al., 2013; Hodgson & Pryor, 1984; Oeberst & Goeckenjan, 2016).

3.2.1 Similarity Bias

Similarity bias is usually conceptualized as prejudices towards and a biased perception of another individual based on sharing certain traits with that individual (Vivian Chen, Lee, & Yvonne Yeh, 2008). Similarity bias is strongly associated with in-group bias: the phenomenon of evaluating and treating people in an own group more favorably than those outside the own group (Tajfel, 1970). Sometimes these two phenomena are treated as a single concept. Despite the overlap, a distinction can be made. Whereas similarity bias typically pertains more to similarity based on individual identities and/or characteristics, in-group bias focuses more on similarities based on collective identities (Brewer & Gardner, 1996; Triandis, 1989).¹

Similarity bias has been shown to affect perceptions and judgments across different contexts. For example, similarity between supervisors and subordinates has been shown to affect subordinates' job satisfaction, performance and pay ratings, such that these are more positive when the perceived similarity is stronger (Turban & Jones, 1988). Compliance with a request has also been shown to be affected by similarity bias. When undergraduates were asked to comply with a request to read an essay and provide feedback, those who had a similar birthday, a similar first name, or similarities in their fingerprint as the requester (i.e., a woman who served as experimenter), were more likely to comply with the request to provide feedback than participants who did not perceive an incidental similarity with the requester (Burger et al., 2004).

Similarity bias has been demonstrated in various settings, such as (1) hiring decisions (Vivian Chen et al., 2008), (2) cooperative behavior (Balliet et al., 2014), and (3) legal decision-making (Epstein, Parker, & Segal, 2018). Regarding the latter, it has been shown that minority participants showed positive in-group biases when evaluating the culpability of rape offenders, where perpetrators were judged to be guilty more often when the rape victim was of the same ethnicity as the participant (Rector & Bagby, 1997). Similarity in terms of religious background has also been shown to affect jury decision making. That is, jury members who saw themselves as similar to the defendant, were typically less certain of the defendant's culpability (Miller, Maskaly, Green, & Peoples, 2011). Also, mock jury members perceived an expert witness as more credible when they also perceived the expert witness to be more similar to themselves in terms of personality (Gardner et al., 2013). Importantly, these effects appear not only to be limited to lay people (i.e., jury members), they also affect legal professionals. Specifically, justices' votes in US Supreme Court freedom-of-expression cases reflected their personal preferences toward the speech's ideological grouping (i.e., conservative or liberal), concluding that US

1 We acknowledge the differences between in-group bias and similarity bias. For the sake of simplicity, we refer to biases resulting from perceived similarity (based on group membership or not) as similarity bias.

Supreme Court judges are affected by in-group biases (Epstein et al., 2018). In sum, similarity bias affects judgments and decisions in a wide range of contexts; legal decision-making is not exempt.

A central theme in the literature on similarity bias is the effect that perceived similarity has on the perceived trustworthiness of others. For example, the findings relating to hiring decisions, cooperative behavior, and legal decision-making, all seem to indicate that a heightened degree of perceived similarity is accompanied by a higher degree of trust. This is supported with evidence for the link between perceived similarity, trust, and perceived trustworthiness. For example, Cazier, Shao, & Louis, (2007) found that value congruence (i.e., perceived similarity of values between consumers and e-businesses) was positively associated with perceived trustworthiness. Racherla, Mandviwalla and Connolly (2012) presented evidence on the relationship between perceived consumer-reviewer similarity and trust in online product reviews. In the context of judging valuations we expect that trust plays an important role. For example, if a legal professional has a high degree of trust in the valuator due to a high degree of perceived similarity, this level of trust might subsequently translate to a high degree of trust in the valuator's work. However, whether similarity biases indeed affect legal professionals' trust in valutors and their valuation is open to question.

Importantly, within the context of financial decision making, very little is known about the potential influence of similarity bias. Nonetheless, research shows that venture capitalists (1) evaluate opportunities more favorably when these are represented by entrepreneurs who 'think' in ways similar to their own, and (2) they tend to favor teams that are similar to themselves in type of training and experience (Franke, Gruber, Harhoff, & Henkel, 2006; Murnieks, Haynie, Wiltbank, & Harting, 2011). Moreover, recent work has shown that when financial analysts perceive a CEO to be similar to themselves in terms of personality, they will issue more positive forecasts of the CEO's company than when they perceive the CEO to be dissimilar (Becker, Medjedovic, & Merkle, 2019). Notwithstanding the limited research in this specific area, the available evidence suggests that in financial decision-making, people can be susceptible to similarity bias. Therefore, it stands to reason that legal professionals' perceptions of valuations and of valutors can also be affected by similarity bias. Similarity bias is disadvantageous for valutors as they might run the risk of being unduly blamed for an unfavorable outcome or being excluded from future work despite the quality and soundness of their work. It may also ignite (unjustified/costly) legal battles.

Based on this reasoning, we expect the level of (perceived) similarity between valutors and legal professionals to affect the perceived trustworthiness of the valuator as well as trust in the valuation. More specifically, we expect that the higher the perceived similarity between a legal professional and a valuator, the more trustworthy the valuator will be perceived, and, consequently, the more trust the legal professional will have in the valua-

tor's valuation. Hence, we expect perceived trustworthiness of a valuator to mediate the relationship between perceived similarity and trust in the valuator's valuation. The notion that perceptions of trustworthiness can be affected by the degrees a person is perceived as similar by an observer has been established (e.g., Cazier et al., 2007; Lui, Ngo, & Hon, 2006; Racherla et al., 2012; Yildiz, 2014). For example, even when people only match in terms of facial features, this is sufficient to increase perceived trustworthiness among interaction partners (DeBruine, 2005; Farmer, McKay, & Tsakiris, 2014), as well as subsequent cooperation (DeBruine, 2002; Kret, Fischer, & De Dreu, 2015; Krupp, DeBruine, & Barclay, 2008). This leads to the following hypotheses:

Hypothesis 1a: There is a positive relationship between legal professionals' perceived similarity with a valuator and their trust in the valuation.

Hypothesis 1b: Perceived trustworthiness of the valuator mediates the positive relationship between perceived similarity and trust in the valuation.

3.2.2 Outcome Bias

Outcome bias is the tendency to take the outcome of a certain decision into account when evaluating that decision, in a way that is irrelevant to the true quality of the decision (Baron & Hershey, 1988). Outcome bias is seen as a largely subconscious cognitive distortion produced by the observer's knowledge of an (adverse) outcome (Hugh & Dekker, 2009).

In other words, people tend to judge the quality of an earlier decision for a large part on its outcome, rather than on evaluating the elements that led to the decision.²

A substantive body of literature describes the effects of outcome bias across a range of different contexts. For example, research shows that the worse the consequences of a particular accident are, the greater the tendency to assign higher levels of responsibility and blame to the initiator (Baron & Hershey, 1988; Walster, 1966).

2 Although outcome bias is often conflated with hindsight bias, which is the perceived likelihood or foreseeability of an event as perceived by a retrospective observer who knows how things turned out (Fischhoff, 2003; Hugh & Dekker, 2009), these are different types of biases. Whereas outcome bias entails being influenced in a broad sense by outcome information when evaluating a particular decision or action such that these are judged more negatively in case of an adverse outcome and more positively in case of a favorable outcome (Baron & Hershey, 1988), hindsight bias specifically concerns the perceived predictability of a certain outcome that is affected by outcome knowledge. Therefore, outcome information affecting judgments of decision quality does not constitute hindsight bias, as it does not concern likelihood or foreseeability judgments.

In a similar vein, Gino, Moore, & Bazerman (2009) demonstrate that people condemn unethical behavior more strongly and assign greater levels of blame when the (randomly generated) outcome of the behavior has detrimental consequences relative to when people are unaware of the behavior's consequences. Likewise, in a medical context, people perceived the same decision (e.g., a surgeon decides to operate on a patient) to be lower in quality if it leads to a bad outcome (the patient dies) rather than a good outcome (the patient survives), all else being equal (Sezer, Zhang, Gino, & Bazerman, 2016). In financial decision making, it has been demonstrated that when people judge the quality of an auditor after an adverse outcome (i.e., business failure), auditor negligence is rated higher when individuals are aware of the outcome compared to when these individuals remained ignorant of the outcome (Kadous, 2000; Peecher & Piercey, 2008). Also, when finance managers had to evaluate their agents' investment strategies and assign bonuses accordingly, they evaluated the same strategy more favorably when it resulted in a good payoff, even if they otherwise had a negative perception of the investment strategy (König-Kersting, Pollmann, Potters, & Trautmann, 2017). Hence, people may use outcome information when assigning blame and praise, rather than focusing on more critical factors such as detecting whether the individual actually caused and intended the outcome (Siegel, Crockett, & Dolan, 2017).

The observations discussed above conflict with rationality standards such as those described by rational decision theorists and those incorporated in some legal doctrines (Mazzocco, Alicke, & Davis, 2004). Nonetheless, outcome bias can be found in legal decision-making. For example, in evaluations of medical negligence, it appeared that these negligence evaluations were strongly influenced by knowledge of an adverse outcome where the same actions of a medical specialist were evaluated less harshly if there was ignorance of any adverse outcome (Hugh & Dekker, 2009). Outcome bias has, thus, been well established in legal decision making (e.g., Harley, 2007; Kamin & Rachlinski, 1995), even among professional judges (e.g., Anderson, Lowe, & Reckers, 1993; Kneer & Bourgeois-Gironde, 2017). Specifically, when judges were asked to judge whether a certain outcome was brought about intentionally, higher ratings of intentionality were given in case of an adverse outcome, and even more so in case of a severely adverse outcome, providing clear evidence for outcome bias among professional judges (Kneer & Bourgeois-Gironde, 2017). This is unsurprising, as overcoming outcome bias is difficult. Research shows that outcome bias is present at an early age and therefore is expected to be robust and persistent at mature ages (Berg-Cross, 1975; Wellman, Larkey, & Somerville, 1979). Indeed, so-called debiasing strategies appear to be ineffective due to the robustness of outcome bias (Hugh & Dekker, 2009).

Given the substantive evidence for outcome bias in a wide range of contexts, it stands to reason that valuers might also be judged on the basis of the outcome of a situation (e.g., a dispute or a deal) in which a valuator's valuation is involved. Specifically, we aimed to investigate whether

legal professionals are affected by information of the outcome of a deal that involves a valuation. Importantly, the influence of outcome bias can be disadvantageous for valuers as it may result in more negative perceptions of both the valuation and the valuator should the outcome of a deal be unfavorable. Hence, valuers might be exposed to the risk of being unduly blamed for an adverse outcome involving a valuation and be excluded from future work or even be held liable for the deal's outcome, despite the quality and soundness of their work. Based on the available evidence discussed above we formulated the following hypothesis:

Hypothesis 2: Valuers will be evaluated more negatively following an undesirable outcome of a deal, and more positively following a desirable outcome of a deal.

3.2.3 Gender Bias

Gender bias entails the automatic (conscious or unconscious and positive or negative) prejudice or preference towards a specific gender (Greenwald & Banaji, 1995; Rothchild, 2007). This bias has been studied in a range of different contexts, such as career success, corporate and female leadership, and within certain occupational groups such as teachers, scientists and lawyers. In corporate careers, the phenomenon of gender bias has been recognized by, among others, Kanter (1977) who studied the determinants of career success for both men and women. She argued that women experience poor career opportunities in an 'inhuman' workplace dominated by men where women are greatly disadvantaged, a situation which can also be destructive for the men. More recent research shows that female leaders can experience increased threat when in leadership positions in industries or organizations where women are rare, where gender stereotypes are made visible, and in organizational cultures that stimulate competition and success (Hoyt & Murphy, 2016). Importantly, a large part of the gender bias and discriminatory treatment that women receive in the workplace is based on gender stereotypes rather than on actual differences between the sexes (Heilman, 2001). Interestingly, it is not only men who are susceptible to gender bias; within the context of female leadership, a somewhat surprising type of gender bias has been identified, the 'Queen bee syndrome'. This occurs when highly successful women aim to defend their position in (male-dominated) organizations by actively disadvantaging other women in their rise to the top (Baumgartner & Schneider, 2010; Derks, Van Laar, & Ellemers, 2016; Mathison, 1986). The literature reports other examples of gender bias in a corporate context showing that both men and women place a higher trust in their superior when that superior has the same gender (D. Scott, 1983), and that men are often preferred to equally qualified women. Also worth noting is that less experienced managers demonstrate the most conspicuous gender bias (Marlowe, Schneider, & Nelson, 1996), as well as the dominant belief that

men are more competent and have greater status compared to women (Ridgeway, 2001). A consequence of gender bias in a corporate context is that women, in general, experience difficulties reaching the upper echelons of organizations, a phenomenon called the 'Glass ceiling effect'; the invisible barrier that prevents women achieving senior leadership roles (Cotter, Hermsen, Ovadia, & Vanneman, 2001). Yet, when women do manage to enter the boardroom, they are, more than men, often placed in delicate positions making it hard to be successful (Ryan, Alexander Haslam, & Postmes, 2007), possibly stimulating perceptions that women are less competent, thereby (further) strengthening negative attitudes towards the female gender.

Gender bias is also present outside the corporate domain. For instance, students rated teachers they perceived to be female lower than those they perceived to be male, regardless of teaching qualities or the actual gender of the teacher (Macnell, Driscoll, & Hunt, 2015). Furthermore, it was shown that gender bias occurs in federal courts in the US, demonstrated in situations such as courtroom interaction, jury instructions, judicial staffing, and attitudes towards female judges and lawyers (Resnik, 1993). Moreover, attorneys' credibility also seems to be affected by gender bias. Specifically, in a particular study female participants rated a female attorney significantly "less intelligent, less friendly, less pleasant, less capable, less expert, less trained, and less experienced than a male attorney" (Hodgson & Pryor, 1984, p. 483). Contrastingly, male participants did not demonstrate such a gender bias. Finally, in that same study, mock jurors indicated that male attorneys were more likely to be retained as their own personal council than female attorneys (Hodgson & Pryor, 1984). With respect to scientific evaluations, female physicians rated the abstract of a medical research design more positively when the authors were female compared to male authors, whereas male assessors did not show a bias (Johansson, Risberg, Hamberg, & Ran Westman, 2002). At the same time, research has shown that women are perceived (both by men and women) to be less similar to successful scientists regarding personality characteristics than men are (Carli, Alawa, Lee, Zhao, & Kim, 2015).

Interestingly, based on the foregoing, it appears that it is not only men who judge women more negatively; in some contexts women judge other women more negatively, whereas in other contexts they are perceived more positively. Indeed, gender bias is not consistently found among men and women, and differs in as much that people sometimes favor their own gender and at other times the other. Therefore, it is not completely clear how gender bias might affect perceptions on valuers and their valuations. Another reason to be unsure about the existence of gender bias in this context is the ambiguity of the intensity and persistence of gender bias. On the one hand, research shows there is evidence of changing attitudes towards, for example, both female and male leaders, while on the other, a significant proportion of men and women judging their leaders still prefer male to female leaders (Eagly & Karau, 2002; Elsesser & Lever, 2011).

Based on the above, we are unsure whether gender bias plays a prominent role in how legal professionals perceive a valuator, and consequently his/her valuations. Any influence of gender bias is probably disadvantageous for valuers as this may possibly affect perceived trustworthiness. Due to the existence of gender bias, valuers may be at risk of being perceived as incompetent or less capable based on their gender and even be excluded from future work despite the quality and soundness of their work. However, given the mixed findings of gender bias in the literature, and uncertainty regarding changes in attitudes towards men and women in present day society, we did not formulate a hypothesis for this bias, and consider our analyses pertaining to gender bias to be exploratory in nature.

3.3 METHOD

3.3.1 Participants

272 legal professionals in the field of business rescue and insolvency completed an online survey. Participants were members of INSOL International, a global federation of national associations of legal professionals who specialize in turnaround and insolvency.³ Of the participants, 125 reported working as insolvency lawyer (46.0%), 89 as insolvency practitioner (32.7%), 32 as accountant (11.8%), 21 as turnaround/restructuring consultant/manager (7.7%), 17 as trustee, (6.3%), 17 as legal scholar (6.3%), 13 as judge (4.8%), 6 as banker (2.2%), and 13 chose 'other' (4.8%).⁴ To ensure a relevant sample was obtained for our purposes, participants were asked whether they were confronted with decisions in their work that involve valuation outcomes; 83.5% confirmed this.⁵

Despite the fact that the INSOL International members are mainly male, to analyze the differences in gender bias between males and females, we ensured an even split between male and female participants, resulting in a distribution of 126 females (46.3%) and 146 males. The average age of the participants was 45.1 ($SD = 11.5$), and they had an average of 19.1 years ($SD = 11.2$) professional experience. Forty different countries are represented in the sample. The six most represented countries are: the United Kingdom (26.5%), Australia (16.2%), South Africa (9.2%), Canada (5.5%), the United States of America (4.8%), and the Netherlands (4.8%).⁶

3 Roughly 3.000 professionals were approached via e-mail to participate in the survey. Due to the fact that we cannot know for certain that the contact details we used were up to date, we cannot establish with certainty what the final response rate was. Assuming 10% of the details were incorrect, the final sample size amounts to a response rate of around 10%.

4 The sum of these figures equals 333, which is more than the total number of 272 participants due to the fact that participants were allowed to list more than one profession.

5 Results did not differ significantly when only this group was analyzed.

6 See Appendix B1 for a complete overview of the participants' nationalities.

3.3.2 Design and Procedure

We adopted a 2 (Similarity: low vs. high) $\times$ 2 (Outcome: positive vs. negative) $\times$ 2 (Firm: low profile vs. high profile)⁷ between-subjects factorial design. The key outcome variables of interest were (1) the participants' trust in the valuation (belonging to H_{1a} and H_{1b}) and (2) the participants' evaluation of the role the valuator played in bringing about the outcome of the deal (belonging to H_2).

When starting the survey, participants received a general introduction regarding the background of the study and were asked to answer several demographic questions regarding their gender, age, nationality, profession, experience in their profession, and whether their work involved making decisions based on valuation outcomes. Participants were then presented with the first part of a case concerning a business that recently went bankrupt, and for which a trustee was appointed to settle the estate. In the case, the trustee hired a valuator to determine the value of the company's assets prior to engaging in negotiations with potential buyers. Participants were asked to put themselves in the shoes of the appointed trustee, and to evaluate the valuation and role of the valuator from the perspective of the trustee handling the estate.

Following the first part of the case, participants were presented with three questions that aimed to measure the participants' perceived similarity with the valuator. This was followed by three questions to measure the valuator's perceived trustworthiness. In addition, participants were asked four questions that measured the participants' trust in the valuation itself.

Participants were then presented with the case outcome (i.e., the second part of the case), in which a deal was closed for all the company's assets to enable a relaunch of the company's activities. Half of the participants received an outcome in which the deal turned out to be very good and the other half was presented with an outcome describing a bad deal. Next, participants were asked questions to capture their perception of the valuator's role in bringing about the good or bad deal.

Finally, participants were asked whether English was their native language (yes = 68.0%), and if not to what extent they properly understood the case and subsequent questions. Participants answered on a 7-point Likert scale ($M = 6.52$, $SD = 0.68$) ranging from "Strongly disagree" (1) to "Strongly agree" (7).

7 For exploratory reasons this factor was incorporated to determine whether the biases under investigation only manifested in case the valuator worked for either a high profile or low profile firm. In section 3.3.3. this will be further explained.

Participants were then debriefed and given the opportunity to provide feedback and note their e-mail address so they could be informed of the study's results.⁸

3.3.3 Materials and Measurements

Part one of the case: similarity and profile manipulations (H_{1a} and H_{1b}). The fictitious case (based on a real-world case) described a fairly large company (GBP 100 million turnover, 350 employees) in the fashion industry that recently went bankrupt after the main financiers decided to end funding after years of trying to save the company from bankruptcy. As a result, the creditors were exposed to a deficit of roughly GBP 25 million and a trustee was appointed by the court to settle the estate and manage a possible relaunch (i.e., going-concern). The trustee aimed to sell the company's assets and activities for at least GBP 25 million to minimize any shortage of the estate and the creditors also believed that this result would be realistic. A private equity firm (PE-firm) was interested in buying the company's assets and, prior to starting negotiations with the PE-firm, the trustee hired a valuator to value the assets of the company (i.e., the company's enterprise value).

The case provided information about the background of the valuator, i.e., first factor, which was either designed to match (in the high similarity condition) or to mismatch (in the low similarity condition) with participants. Specifically, for those in the high similarity condition, the valuator had the same gender as the participant (i.e., Laura Matthews for female participants, and Andrew Matthews for male participants), and the same age (i.e., "in his/her thirties if the participant was between 30-39 years old, "in his/her forties" if the participant was between 40-49 years old, etc.). In the low similarity condition, the gender of the valuator was the opposite to the participant's and the valuator's age was as far away from the participant's age as possible. If the participant was younger than 45, the case stated that the valuator was "in his/her sixties", and if the participant was 45 years or older, the valuator was "in his late-twenties". The valuator's educational and professional background were kept consistent across the two conditions.

A second variable factor was the valuator's current employer, either a low-profile firm (i.e., a small, local valuation firm) or high-profile firm (i.e., an international Big Four firm). This factor was included for exploratory reasons to determine whether the biases under investigation only manifested in case the valuator worked for either a high-profile or low-profile firm.

8 We reported all manipulations, all data exclusions, and all measures in our study, so we note that two short sets of questions (10 in total) on free will and quality of sleep, and six general questions unrelated to the case on valuation practices in general, were excluded from the analyses. These questions were pilot questions for a parallel research project.

Finally, the case mentioned that the valuator determined the (enterprise) value of the company's assets using the DCF-method, and that the assets were valued at GBP 18.25 million, roughly GBP 7 million short of preventing the estate's deficit (total debt GBP 25 million). The full case can be found in Appendix B2.

Independent variable: Perceived similarity. In addition to manipulating similarity, we measured *perceived similarity* for two reasons. First, this allowed us to check whether the manipulation of similarity was successful, as this would mean that the perceived similarity would be significantly higher in the high similarity condition relative to the low similarity condition. Second, we wanted to examine the effect of both actual (i.e., manipulated) similarity and perceived similarity on trust in the valuation through its effects on perceived trustworthiness of the valuator. Previous research has shown that perceived similarity is typically a much stronger predictor of attitudes and behavior than actual similarity (e.g., Ferris & Judge, 1991; Strauss, Barrick, & Connerley, 2001; Tidwell, Eastwick, & Finkel, 2013; Turban & Jones, 1988). This is because in order for similarity biases to manifest, an observer must first actually consider another person to be similar (Byrne, 1971).

The perceived similarity scale (Cronbach's $\alpha = .84$) consisted of the following three items: *"I believe I have a similar character as the valuation professional, [Laura/Andrew] Matthews"*, *"I believe I have similar norms and values as the valuation professional, [Laura/Andrew] Matthews"*, and *"I believe that, in general, I am very similar to the valuation professional, [Laura/Andrew] Matthews"*. Participants were asked to indicate the extent to which they agreed with each statement on a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7).

Mediator: Trustworthiness of valuator. The perceived trustworthiness of the valuator was measured using three items (Cronbach's $\alpha = .77$), each representing one of the three dimensions of trustworthiness, "ability", "benevolence", and "integrity", as put forward by Mayer, Davis and Schoorman (1995). The item measuring ability was: *"I trust that the valuation professional, [Laura/Andrew] Matthews, is competent in the field of business valuation and is able to make a solid forecast for the purpose of this valuation"*. The item measuring benevolence was: *"I trust that the valuation professional, [Laura/Andrew] Matthews, has an eye for the issues that are important in this case and that [she/he] will do [her/his] utmost best to meet me in my objectives"*. The item measuring integrity was: *"I trust that the valuation professional, [Laura/Andrew] Matthews, is a person of integrity and will be fair to me in [her/his] considerations towards the value of the assets"*. Participants again responded on a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7).

Mayer and Davis (1999) created a scale of five or six items to measure each of the three trustworthiness components, however we had three reasons to limit the scale to a single item per component. First, based on a pilot study in which we included all 17 items from Mayer and Davis' (1999) trustworthiness scale, we learned that the participants considered it to be difficult, if not impossible, to answer so many questions about a person they

did not know, and for whom they had received little information. Second, we wanted to focus on those items relevant to the context of business valuation and, therefore, excluded the more generic items created by Mayer and Davis (1999). Third, given that the sample consisted of legal professionals with little time available to participate in our research, we aimed to keep the survey as short as possible to ensure sufficient completed surveys.

Dependent variable: Trust in the valuation. We measured participants' trust in the valuation outcome using four items (Cronbach's $\alpha = .67$). Considering the importance of risk taking in trusting behavior (e.g., Mayer & Davis, 1999) we aimed to measure participants' trust in the valuation outcome by including questions asking participants how likely they believed they would perform certain actions involving risk based on the valuation outcome. Specifically, we asked participants (1) *"How likely do you consider it to be that you would accept the valuation outcome and start negotiating with the PE-firm based on [Laura/Andrew] Matthews's valuation of GBP 18 million?"*, and (2) *"How likely is it that you would consult a second valuator to check the valuation outcome as determined by [Laura/Andrew] Matthews, realizing there are additional costs to a second opinion that will affect the estate?"*. Participants answered on a 7-point Likert scale ranging from "very unlikely" (1) to "very likely" (7). The other two items of the scale were (3) *"I trust that the valuation outcome is representative of the market value of the assets"*, and (4) *"To what extent do you believe it is justified to try to determine a higher valuation outcome by arguing the outcome with the valuator, [Laura/Andrew] Matthews?"*. Participants answered both items on a 7-point Likert scale with the first question ranging from "strongly disagree" (1) to "strongly agree" (7), and the second from "very justified" (1) to "very unjustified" (7).

Since the internal consistency of the scale was below the benchmark range of .70-.80 (Lance, Butts, & Michels, 2006) we conducted exploratory factor analysis (EFA) to see if the four items appeared to measure a single construct. The EFA identified one single factor and all four items loaded on the factor satisfactorily. Moreover, the observed Cronbach's alpha was considered sufficient for theory-testing purposes (Nunnally & Bernstein, 1994). Hence, based on the internal consistency in combination with the EFA we believe it is safe to assume the four-item scale is a valid measure of participants' trust in the valuation outcome.

Part two of the case: outcome manipulation (H_2). After the questions concerning perceived similarity, trustworthiness of the valuator, and trust in the valuation, participants were presented with the outcome of the case (either a positive or a negative deal), i.e., the third factor in the $2 \times 2 \times 2$ between-subjects factorial design.

The positive outcome described a situation in which the negotiations with the PE-firm were slow and difficult, and that other parties refrained from making a bid when they learned the company's total assets were valued at GBP 18 million. However, in the end, the deal was closed at GBP 18 million, and the creditors felt satisfied believing this deal was probably the best they could have gotten out of the situation.

In the negative outcome scenario, it was described that the PE-firm accepted the GBP 18 million offer instantly, and the trustee was later approached by other parties who indicated they were willing to pay GBP 25 million and above for the company's assets. Because of this, the creditors reported feeling frustrated as they believed a good enough deal to cover the entire deficit of the estate would have been feasible.

Hence, the difference between the two outcome scenarios was the ease with which the deal was closed, and the creditors' and major stakeholders' reactions to the deal (i.e., either happy or frustrated).⁹

Dependent variable: Evaluation of the valuator's role. We aimed to investigate the effect of outcome bias on the evaluation of the role the valuator played in bringing about the outcome of the case. That is, are valuers judged more negatively after a suboptimal outcome (i.e., bad deal) and more favorably after a fortunate outcome (i.e., good deal)? We used three separate measures (i.e., not a single scale). First, participants were asked: "To what extent do you consider the valuation professional, [Laura/Andrew] Matthews, to be blameworthy or praiseworthy for the end result of the case (i.e., closing the deal at GBP 18 million)?" , answered on a 7-point Likert scale ranging from "very blameworthy" (1) to "very praiseworthy" (7). Second, participants were asked to indicate to what extent they agreed or disagreed with the following statement: "I believe that the valuation professional, [Laura/Andrew] Matthews, did [her/his] utmost best to determine a value according to the best of [her/his] knowledge and belief". Third, participants were presented with the statement: "Considering the outcome of the deal, I believe I would hire the valuation professional, [Laura/Andrew] Matthews, next time again".

These last two statements were answered on a 7-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7).¹⁰

3.4 RESULTS

Data Preparation

Considering the importance of reading the case and the details regarding the valuator properly, we determined *a-priori* the exclusion criterion spending at least 60 seconds reading the case. Even though this is a relatively arbitrarily, we considered it a lenient cut-off criterion given it would require a reading speed of 16.8 standard deviations (1 *SD* = 30 words/minute) above the average reading speed (*M* = 228 words/minute) in the

⁹ Both the positive and negative outcome scenario can be found in Appendix B3.

¹⁰ A fourth item was presented, but in hindsight we realized that this item was phrased sub-optimally. Participants may have had difficulties interpreting this question. Therefore, the item was excluded from the analysis. The item was: "I believe that the end result of the case (i.e., closing the deal at GBP 18 million) is due to the work of the valuation professional, [Laura/Andrew] Matthews".

English language (Trauzettel-Klosinski & Dietz, 2012) to complete the case of 733 words within 60 seconds. Eleven participants (4.0%) were excluded from the analyses, resulting in a final sample of 261 participants. Importantly, this did not affect the findings as similar effect sizes and significance p -values were found when the entire sample was analyzed.

Similarity Bias

We tested the hypothesis that trust in a valuation can be explained by the perceived similarity between the valuator and the legal professional judging the valuation (H_{1a}), and that this relationship is mediated by the perceived trustworthiness of the valuator (H_{1b}). We first conducted a manipulation check to see whether the similarity manipulation affected the perceived similarity of the valuation professional. An independent samples t -test indicated that those in the High Similarity condition indeed perceived the valuator to be more similar to themselves ($M = 4.07$, $SD = 1.05$) than those in the Low Similarity condition ($M = 3.56$, $SD = 1.07$), $t(259) = -3.84$, $p < .001$, Cohen's $d = .48$, suggesting the manipulation of similarity was successful.

Next, we used PROCESS (Hayes, 2018) with 10,000 bootstrap samples to investigate whether similarity (manipulated and perceived) predicted the participants' trust in the valuation, and whether this relationship was mediated by the valuator's perceived trustworthiness. When using manipulated similarity as the predictor variable (again using Hayes' Process for a mediation analysis), no significant total effect was found on the participants' trust in the valuation, $b = 0.11$, $SE = .13$, $p = .39$, 95% CI [-0.15, 0.37]. When perceived similarity was used as the predictor variable, however, perceived similarity was found to predict trust in the valuation. The total effect for the relationship between perceived similarity and trust in the valuation was $b = 0.24$, $SE = 0.06$, $p < .001$, 95% CI [0.13, 0.36], thus supporting hypothesis 1a. This latter relationship was mediated by the perceived trustworthiness of the valuator, as indicated by a significant indirect effect of 0.12, $SE = 0.03$, 95% CI [0.06, 0.18], supporting hypothesis 1b. Table 3 shows the model coefficients for the presumed trustworthiness influence.

Table 3. Unstandardized regression coefficients (b) of a linear regression, standard errors (SE) and p -values for the proposed mediation model with perceived trustworthiness of the valuator (M) as the mediator of the relationship between perceived similarity (X) and trust in the valuation outcome (Y).

	M (Trustworthiness)			Y (Trust in valuation)		
	b	SE	p	b	SE	p
X (Perceived similarity)	0.25	0.05	< .001	0.13	0.06	.026
M (Trustworthiness)	-	-	-	0.48	0.07	< .001
Constant	4.14	0.20	< .001	0.88	0.35	.013
	$R^2 = .089$			$R^2 = .214$		
	$F(1, 259) = 25.32$, $p < .001$			$F(2, 258) = 35.06$, $p < .001$		

We conducted a second mediation analysis in which the valuator's firm profile (high profile vs. low profile) was included as a moderator variable for each of the mediation model's paths, in order to explore whether the relationships between perceived similarity, perceived trustworthiness, and trust in the valuation were dependent on the valuator's firm profile. Analysis showed that none of the moderation effects were significant (all p -values $> .46$).

Outcome Bias

We tested the hypothesis that participants' evaluation of the valuator's role in bringing about the deal's outcome was affected by the desirability of the deal, and whether this effect was dependent on the reputation of the valuator's firm. First, a Multivariate Analysis of Variance (MANOVA) was conducted with the deal outcome condition (positive vs. negative) and the valuator's firm profile (low profile vs. high profile) as independent variables (including the interaction term), and the three separate items measuring the evaluation of the valuation professional's role in bringing about the deal outcome as dependent variables. The MANOVA returned a significant effect for the deal outcome condition, $F(3,255) = 35.51, p < .001, \eta_p^2 = .30$, but not for the valuator's firm profile nor for the interaction between these two factors ($F_s < 1$). That is, the effect of the deal outcome on the evaluation of the valuator's role in the outcome was independent of the profile of the valuator's firm.

Subsequent univariate analyses (ANOVA) revealed significant effects of the deal outcome condition for all three dependent variables (Table 4). For all variables, a higher score represents a more positive evaluation and a lower score a more negative evaluation. In case of a negative deal outcome, participants believed the valuator deserved blame for the outcome of the deal as indicated by a score below the midpoint ($M = 3.64$), whereas a positive deal outcome showed that the participants believed the valuator deserved praise ($M = 4.49$). Likewise, in case of a positive outcome, participants believed more strongly that the valuator did her/his utmost best to determine a value according to the best of her/his knowledge and belief ($M = 5.35$), than when the case ended negatively ($M = 4.81$). Results also showed that participants believed they would rehire the valuator in case of a positive deal outcome as indicated by a mean score above the midpoint ($M = 4.49$), whereas they believed they would not rehire the valuator in case of a negative outcome ($M = 3.50$). Hence, the results indicate that participants are affected by the outcome of the deal when evaluating whether the valuator should be praised or blamed, whether the valuator did her/his best, and whether they would rehire the valuator in the future. Hypothesis 2 is thus supported.

Table 4. Descriptive statistics and significance tests for the univariate analyses (ANOVA) for the effects of deal outcome on the three dependent variables.

Dependent Variables	Negative outcome (N=129)		Positive outcome (N=132)		F(1, 259)	p	η^2
	M	(SD)	M	(SD)			
Blame/Praise	3.64	(0.79)	4.49	(0.85)	69.76	< .001	.212
Effort	4.81	(1.15)	5.35	(1.00)	16.56	< .001	.060
Rehire	3.50	(1.34)	4.94	(1.14)	87.61	< .001	.253

Additional analysis

Interestingly, in addition to the effect of the deal outcome, the perceived similarity with the valuator also affected the participants' evaluation of the valuator. As Table 5 shows, multiple linear regression analyses indicate that when the outcome condition and perceived similarity are included as predictor variables in a stepwise approach, the model with both predictor variables explained significantly more variance (for Blame/Praise, Effort, Rehire) than the model in which only the deal outcome was included.

Table 5. Unstandardized regression coefficients (b), standard errors (SE), and p-values of the multiple regression models with Deal Outcome condition and Perceived Similarity as predictor variables of the dependent variables Blame/Praise, Effort, and Rehire.

	Model 1			Model 2		
	b	SE	p	b	SE	p
Blame/Praise (DV)						
Deal outcome condition (negative = 0, positive = 1)	.85	0.10	<.001	.85	0.10	<.001
Perceived Similarity	-	-	-	.11	0.05	.019
	$R^2 = .212$ $F(1, 259) = 69.76, p < .001$			$\Delta R^2 = .017$ $F(2, 258) = 5.59, p = .019$		
Effort (DV)						
Deal outcome condition (negative = 0, positive = 1)	.54	0.13	<.001	.54	0.13	<.001
Perceived Similarity	-	-	-	.26	0.06	<.001
	$R^2 = .060$ $F(1, 259) = 16.56, p < .001$			$\Delta R^2 = .063$ $F(2, 258) = 18.46, p < .001$		
Rehire (DV)						
Deal outcome condition (negative = 0, positive = 1)	1.44	0.15	<.001	1.44	0.15	<.001
Perceived Similarity	-	-	-	.31	0.07	<.001
	$R^2 = .253$ $F(1, 259) = 87.61, p < .001$			$\Delta R^2 = .055$ $F(2, 258) = 20.61, p < .001$		

Hence, it appears that not only did the participants have more trust in the valuation due to higher perceptions of trustworthiness of the valuator if the valuator was perceived as more similar to themselves, this perceived similarity with the valuator also predicted participants' judgments regarding whether the valuator deserved blame or praise, whether the valuator did her/his best and whether they would rehire the valuator.

Gender Bias

With our analyses, we aimed to investigate whether the perceived trustworthiness of the valuator described in the case was dependent on that valuator's gender. Moreover, we explored whether a gender bias was present for both the male and female participants in our study. We used an ANOVA with the perceived trustworthiness of the valuator as the dependent variable, and the gender of the valuator described in the case and that of the participant as independent variables. However, this did not return a significant interaction effect between these two variables, $F(1,257) = 2.43$, $p = .12$, $\eta_p^2 = .01$, nor any main effects. This suggests that no gender bias exists in perceived trustworthiness, for either male or female participants.

However, further exploratory analyses revealed that when we focused on the separate components of trustworthiness (i.e., ability, benevolence, integrity), a gender bias was present. The three items corresponding to the three dimensions of trustworthiness were subjected to a MANOVA with both the gender of the valuator and the participant (and their interaction) as independent variables. The results showed a significant effect for the interaction between these gender variables, $F(3,255) = 2.70$, $p = .046$, $\eta_p^2 = .03$, but not for the main effects. When further probing this interaction effect, subsequent univariate analyses indicated that a significant interaction effect was only present for the item measuring trust in the valuator's ability, $F(1,257) = 6.53$, $p = .011$, $\eta_p^2 = .03$. Simple main effect analyses showed that male participants had more trust in the valuator's ability when the valuator was also male ($M = 5.30$, $SD = 1.05$) than when the valuator was female ($M = 4.77$, $SD = 1.10$), $F(1,138) = 8.52$, $p = .004$, $\eta_p^2 = .06$. Contrastingly, female participants showed no difference in their judgments of the valuator's ability based on the valuator's gender, as their perception of the male valuator's ability ($M = 5.13$, $SD = 1.22$) was not statistically different ($F < 1$) from their perception of the female valuator's ability ($M = 5.31$, $SD = 1.13$).

Based on these findings, using a moderated mediation analysis, we further explored (see Figure 5) whether the gender bias affected trust in the valuation through its effect on trust in the valuator's ability.

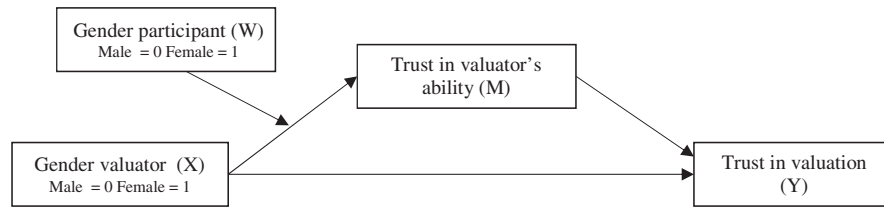


Figure 5. Moderated mediation model of the relationship between the gender of the valuator (X) and trust in the valuation (Y) as mediated by trust in the valuator's ability (M), moderated by the gender of the participant (W).

Table 6. Unstandardized regression coefficients (b), standard errors (SE) and significance levels (p) for the proposed moderated mediation model with Trust in the valuator's ability as the mediator (M) of the relationship between the Valuator's gender (X) and Trust in the valuation outcome (Y), with the Participant's gender as the moderator (W).

	Trust in valuator's ability (M)			Trust in valuation (Y)		
Antecedent	b	SE	p	b	SE	p
Gender valuator (X)	-0.53	0.19	< .01	-0.08	0.12	.50
Trust in ability (M)	-	-	-	0.40	0.05	< .001
Gender participant (W)	-0.18	0.20	.37			
X*W	0.71	0.28	.01			
Constant	5.30	0.14	< .001	1.77	0.27	< .001
	$R^2 = .039$ $F(3, 257) = 3.48, p = .017$			$R^2 = .187$ $F(2, 258) = 29.73, p < .001$		
	Trust in valuator's ability (M)					
Antecedent	b	SE	p			
Male participants (W) <i>N=140</i>						
Gender valuator (X)	0.53	0.19	< .01			
Female participants (W) <i>N=121</i>						
Gender valuator (X)	0.18	0.20	.37			

Table 6 shows heightened trust in the valuator's ability when both the participant and valuator were male. This mediated the relationship between the gender of the valuator and the participant's trust in the valuation, as indicated by a significant moderated mediation effect, Index = .29, 95% CI [.06, .54]. That is, the gender of the valuator predicted the participants' trust in the ability of the valuator (more trust in the male valuator), and this subsequently predicted the trust in the valuation, but only if the participant was male, as indicated by a significant indirect effect for this group of -0.21, $SE = 0.08$, 95% CI [-.37, -.06], and the fact that no significant indirect effect was found for female participants, 0.07, $SE = 0.09$, 95% CI [-.09, .25]. When the participant's gender was not included in the model as a moderator, the indirect effect of the valuator's gender on the trust in the valuation through

the perceived trust in the valuator's ability was not significant, -0.08 , $SE = 0.06$, 95% CI $[-0.19, 0.03]$.

3.5 DISCUSSION

We investigated the extent to which legal professionals are affected by outcome bias, similarity bias, and gender bias when evaluating the trustworthiness of valuers, their valuations, and the roles these valuers play in bringing about the outcome of a deal. We found that when legal professionals evaluate a valuator after using his/her valuation report for the sale of a bankrupt company's assets, the outcome of the deal affects the legal professional's opinion of the valuator. In the case of a good deal, the valuator is perceived in a more positive light, whereas the same valuator is perceived more negatively after a bad deal. This effect is independent of the profile of the valuator's firm. We also found that if a valuator was perceived by legal professionals as being more similar to themselves, they also perceived the valuator as more trustworthy, and in turn have more trust in his/her valuation. Perceived similarity thus indirectly influences the legal professional's trust in the valuation through its effect on the trustworthiness of the valuator. Interestingly, in the case of higher perceived similarity, legal professionals are also more positive about the valuator's role in the deal as they are more likely to rehire the valuator in the future, believe more strongly that the valuator deserves praise (or less blame in case of a bad deal), and believe more strongly that the valuator did her/his best in valuing the assets of the company. In addition, we found that male professionals had more trust in the ability of a valuator when the valuator was a male. This heightened trust in the valuator's ability also predicts trust in the valuation. Female professionals do not show gender bias in their perception of a valuator's ability.

Implications

Our research shows that legal professionals can be influenced by extra-legal factors when evaluating valuers and their valuations. This study thereby contributes to the literature on biases in legal decision making by demonstrating that similarity bias, outcome bias, and gender bias can be manifest in the context of a business valuation used in an insolvency proceeding.

We found empirical support for the notion that legal professionals can be susceptible to similarity bias when dealing with complex valuation matters, thereby building on previous research on similarity biases in legal decision-making (e.g., Epstein et al., 2018; Gardner et al., 2013; Miller et al., 2011; Rector & Bagby, 1997). Moreover, empirical support was found for the notion that when legal professionals have to evaluate valuers, they can be affected by outcome knowledge where a bad deal outcome causes them to perceive the valuator more negatively. This finding is in line with research on outcome bias in the legal context (e.g., Anderson et al., 1993;

Harley, 2007; Kamin & Rachlinski, 1995; Kneer & Bourgeois-Gironde, 2017). Specifically, we found empirical support for gender bias among legal professionals where male participants have more trust in the valuator's ability when the valuator was male compared to when the valuator was female. This is in line with studies demonstrating that males favor other males (e.g., Fay & Williams, 1993; Macnell et al., 2015; Marlowe et al., 1996; Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012), but in contrast with research showing that females are harsher when judging men (e.g., Johansson et al., 2002).

Equally important are the practical implications of our research. In business, the interests of stakeholders are frequently unaligned. Consequently, many disputes between stakeholders involve or even focus on a valuation. In their capacity as representative of the stakeholders' interests, or as independent experts representing the court, legal professionals are confronted with valuation reports and valuation issues, and they must form opinions about the valuation and the valuator. In an ideal world, the evaluation of valutors and valuations is solely based on the quality of the valuation, and the correctness of the applied valuation framework. Following our premise that it is unlikely that all legal professionals are able to judge valuations on their form and content, other factors are expected to influence legal professionals' perception towards valuations and valutors. As our study shows the effects of extra-legal influences such as the perceived similarity with the valuator, the outcome of the deal, and the gender of the valuator, our findings cast doubt on the idea that, in practice, business valuations are predominantly judged by the quality and robustness of the valuation.

An important implication of our findings is that, regardless of whether a valuation is demonstrably correct, complies to all (theory-based) valuation standards and requirements, and is free from valuation input biases, both the valuation and the valuator can be judged as inadequate, and vice versa (i.e., demonstrably incorrect valuations can be considered adequate due to cognitive biases). In this context it can be stated that "value is in the eye of the beholder": a good valuation and a competent valuator can be perceived as poor while a poor valuation and an incompetent valuator can be perceived as good.

Considering that personal traits, interests, and perceptions are more difficult to neutralize or eliminate in valuation discussions rather than discussions on valuation technics, our findings are highly undesirable for both stakeholders and valutors. Current debates, disputes and legal battles about or involving valuations may be conducted on improper grounds and even unnecessarily extended, which is not beneficial for any stakeholder. Moreover, valutors might be unduly judged and perceived as less competent or incompetent, and might even be alleged as less or not trustworthy. Importantly, worldwide valuation practice nor legal practice currently offer clear answers to counter this problem.

Although certainly most valutors spend great efforts when conducting professional valuations to enhance the acceptance of their valuations, we

suspect that these efforts alone neither mitigate biases nor the conflicting interests of parties in valuation disputes. Both valuation professionals and legal professionals must be more aware of the effects of biases as these can enlarge the magnitude of a dispute, and can ignite new disputes.

We therefore emphasize the importance of the development of new approaches and methods to reduce the impact of biases in perceptions on valuers and their valuations.

Limitations and Future Research

Our findings are based on an ecologically valid sample with realistic study materials that included a real-world business case as well as a summary of a valuation report. Taken together, these factors benefit the external validity and overall generalizability of the research. We nonetheless acknowledge certain limitations.

An arguable weakness of the study is the compressed manner in which the financial and valuation assumptions were presented. Although participants gave positive feedback on the presented case, we acknowledge that it is difficult to establish with certainty that our findings are fully generalizable. For practical reasons, the participants were presented with a brief description of the content of the valuation report and not with a complete valuation report. Hence, we cannot exclude the possibility that results would be different if detailed valuation report was presented. We consider this to be less likely as we suspect that many legal professionals are not suitably trained to be able to analyze and fully grasp a complete valuation report, or that they generally do not have the time to do so. Moreover, we presented a case that concerned an insolvent company of which the total assets and activities were sold to simulate a (fresh) 'going-concern' situation.¹¹ It remains an open question whether our findings can be generalized to different cases outside the context of restructuring and insolvency, which might be dealt with by legal professionals other than the restructuring and insolvency specialists in this study. Possibly, participants would be affected differently by the examined biases in case of a normal continuity of the company, as we cannot exclude the possibility that as a result of knowing the negative outcome (i.e., the company went bankrupt) participants were already pessimistic and pressured by their task to maximize sales proceeds. However, given that cognitive biases are largely universal, we suspect that legal professionals with a different legal focus will be similarly affected. Nonetheless, future research should investigate the generalizability of the current findings across legal contexts.

Another possible limitation concerns the probability that the gender of the valuator was confounded with the valuator's age. Specifically, if male participants were presented with a male valuator, this valuator was also in the same age category (i.e., thirties, forties, etc.) as the participants.

11 Meaning a situation in which the company as a whole is relaunching/continuing its activities, but is relieved of its debts.

Likewise, if the participant was male and the valuator female, the valuator's age was different from that of the participant. Hence, it could be that the observed findings can be explained by a bias that people might have that favors people of (roughly) the same age relative to people further removed in terms of their age. To our knowledge, no such bias exists that favors people of the same age. Nonetheless, it is possible that the combined similarity in terms of age and gender affected the trust in the valuator's ability, rather than the valuator's gender per se. Future research should further investigate the observed gender bias in a legal professional's trust in the valuator's ability, to test whether it is truly a bias based on a valuator's gender, or whether the valuator's gender and age combined signal a high or low level of similarity with the valuator.

A potential issue concerns the observation that in the current research only perceived similarity predicted the perceived trustworthiness of the valuator and trust in the valuation outcome. For the manipulated similarity (based on the participants' gender and age) no such effects were found. A possible explanation for this finding is that the manipulation of similarity was insufficiently strong to produce any effects on the variables of interest. The manipulation check did show that participants in the 'similar' condition perceived the valuator to be more similar to themselves than participants in the dissimilar condition, but even participants in the similar condition scored approximately on the midpoint of the scale, suggesting they did not perceive the valuator to be very similar. Previous research has shown that perceived similarity is generally a stronger predictor of behavior than actual similarity manipulated by the experimenters (e.g., Ferris & Judge, 1991; Strauss et al., 2001; Tidwell et al., 2013; Turban & Jones, 1988). This is thought to be because in order for similarity biases to manifest, an observer must first actually consider another person to be similar (Byrne, 1971). Hence, despite the difference in perceived similarity based on the assigned condition, measuring perceived similarity could be a better way to capture the similarity between participants and (in this case) valutors, and that it can thus better predict behavior, attitudes, or other variables of interest.

Our research paves the way for future research to explore the effects of the same biases when presenting a more extensive valuation report to the sample, when using a context of business continuity instead of insolvency. Moreover, we advise researchers to explore the effect of gender bias when considering the valuator's gender in isolation rather than in combination with age. We also raise the question of what should and could be done to limit or even avoid biases when judging valutors and valuations in practice. We propose developing new evaluation techniques and methods, as well as actively training legal experts to recognize biases when judging both valutors and valuations; this should result in a better understanding of valuations in a legal context.

In this chapter, we explored the role of cognitive biases among legal professionals when judging business valuations and valutors. Legal professionals are important advisors to entrepreneurs on events and deci-

sions when their interests are at stake. We show that legal professionals can be affected by similarity bias, outcome bias, and gender bias. Naturally, the next question would be, do biases also play a role in the judgment of business valuers themselves as they fulfil a pivotal role in the valuation exercise? Therefore, in Chapter 4, we examine the role of cognitive biases among business valuers.