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

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6 Conclusion

6.1 General Contribution

Business valuations frequently result in lengthy disputes and costly legal procedures, typically a result of widely diverging valuation outcomes. The valuation literature, thus far, has predominantly focused on the role of differences in valuation inputs (e.g., growth rates of net income and cash flows, cost of equity and debt, beta, the level of (re)investments and net working capital, terminal value, etc.) as a cause of these deviations (e.g., Bancel & Mittoo, 2014; Dukes, 2001; Szymański, 2012) and subsequent disputes. In this dissertation we set out to enhance our understanding of valuation disputes by exploring the role of cognitive biases in the judgment of business valuators and business valuation outcomes. To achieve this, we conducted three experimental studies, examining cognitive biases from the perspective of three key stakeholders: the entrepreneur, the legal professional, and the business valuator. The latter, in many cases, can be considered as the key stakeholder, particularly when supporting his/her clients in the assessment of a valuation conducted by another valuation expert. Following these experimental studies, we held a survey among an international group of leading business valuation professionals in order to obtain a critical and practical view on the findings of the three empirical studies. In this way, we were able to ask the professionals to reflect on a proposed set of valuation principles derived from the results of our three studies. Using these principles, valuation professionals may be able to mitigate cognitive bias in business valuation practice.

Collectively, the studies show that when the three stakeholders judge valuations and valuators, they can be affected by cognitive biases. This shines a new light on the question why valuations regularly lead to (or enlarge) disputes and legal procedures. The proposed set of valuation principles intends to help practicing professionals in a preventative way.

In Chapter 2., we show that entrepreneurs, in their role as the ultimate end-user of a valuation, perceive the value of an interest in their company (or a prospective interest they are looking to obtain) differently based on the buyer-seller position they hold. More specifically, entrepreneurs appear to be unconsciously affected by their position in a transaction so that if they are the buyer, they perceive the value of the object as being lower compared to when they are the seller of the object, and vice versa. We also find that entrepreneurs are affected by anchoring bias so that when they are confronted with an independent valuation report and are asked to indicate in what range they believe the true value of the company lies, they use the initial value (calculated by the independent valuator) as an anchor, resulting in a higher valuation range in case of a high anchor, and a lower range in case of a low anchor. Hence, their perceptions regarding the value of the company are affected by the anchor: a relatively high anchor results in a higher perceived value compared to when a relatively low anchor is presented.

In Chapter 3., we investigated whether legal professionals were affected by similarity bias, outcome bias, and gender bias after they asked a business valuator to assess the value of an insolvent company. Our study reveals that the judgments of valuations and valuators by legal professionals are affected by (1) the degree of perceived similarity with the valuator, (2) the outcome of a deal in which the valuation was used, and (3) the valuator's gender. Specifically, if a valuator is perceived by legal professionals as being more similar to themselves, they also perceive the valuator as more trustworthy, and in turn have more trust in his/her valuation. Moreover, in the case of higher perceived similarity, legal professionals are also more positive about the valuator's role in the deal, 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 they believe more strongly that the valuator did his/her best in valuing (the assets of) the company. Furthermore, when legal professionals evaluate a valuator after they have used her/his valuation report for the sale of a company's assets, the outcome of the deal affects the legal professionals' opinion of the valuator. In 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. Also, male legal professionals have more trust in the ability of a valuator when the valuator is also male. This heightened trust in the valuator's ability also predicts trust in the valuation. Contrastingly, female legal professionals do not show gender bias in their perception of the ability of the valuator.

In Chapter 4., we examined whether business valuators are affected by cognitive biases when giving a second opinion on a given business valuation of a company. We found that business valuators are unconsciously influenced by a client's interests as well as by numerical anchors. Valuators appear to be affected by their clients' interests, so that when they represent a buyer (and therefore might have an implied incentive to lower the company's valuation), they in fact indicate that the valuation should be adjusted downwards more heavily, and they also indicate a lower value range for the true value of the company. The opposite is the case when they represent the seller. Moreover, it appears that when valuators are confronted with a valuation report, and are asked to indicate in what range they believe the true value of the company lies, they use the initial value (in this case the outcome of a valuation report conducted by another valuator) as an anchor, resulting in a higher range in case of a high anchor, and a lower range in case of a low anchor. Specifically, their perceptions regarding the value of a company are affected by the numerical anchor, so that a relatively high anchor results in a higher valuation compared to when a relatively low anchor is presented.

In Chapter 5., the findings of these three empirical studies were evaluated by an international group of leading valuation professionals. The results indicate that the majority of participants recognized the influence of cognitive biases in their daily work and/or that of their peers. Participants who did not recognize the impact of biases among themselves, however, believed that these biases can in fact influence their peers.

Overall, the dissertation contributes to the body of knowledge within the valuation domain in a number of ways. First, the business valuation literature treats business valuation primarily as a mechanical and arithmetical exercise, largely ignoring behavioral aspects. The risk of biases is currently mainly addressed in connection with valuation input variables. In contrast, in this dissertation, we examined how cognitive biases impact the way key stakeholders (including business valuators themselves) perceive a valuation outcome and the valuator who created that outcome. We show – in addition to biases in input variables of a valuation – that cognitive biases also play an important role in the judgment of valuation outcomes and the resulting valuation disputes. In this way, we direct attention to a relatively unexplored area in business valuation that seeks to find explanations for the widespread existence of divergent business valuation judgments in practice. It thereby sheds light on the issue why sound valuations can be perceived as poor, and poor valuations as sound. Second, some studies suggest that financial professionals weigh their clients' interests at the expense of their professional judgment (Firth, Lin, Liu, & Xuan, 2013). The existence of this so-called engagement bias, however, is ill-addressed in the social psychology literature. We provide empirical evidence for the existence of engagement bias in a valuation context, thereby extending the current body of knowledge on engagement bias.[1] In addition, as a minor contribution, we provide support for earlier research on bias blind spot, the notion that people tend to acknowledge the existence and influence of cognitive and motivational biases much more in others than in themselves (Pronin, Lin, & Ross, 2002), by extending this phenomenon to the valuation domain. Our findings regarding the existence of bias blind spot among valuators is of practical importance as it draws attention to possible resistance to change in the valuation profession. Third, we addressed two important phenomena in valuation practice. On the one hand, we provided a new understanding of how valuation outcomes and valuators are judged. On the other hand, we applied scientific methods and theories to examine a well-known psychological phenomenon observed in practice that up until now has only been discussed anecdotally in the literature. As such, the findings of the empirical studies may serve as a first step in creating awareness that cognitive biases play a role in business valuation, and that they impact the way key stakeholders judge valuation outcomes and valuators.

1 *Note*: in practice, valuation professionals sometimes joke about which 'calculator' they will use to determine the value of a company, depending on whether they support the buyer or the seller.

In this dissertation, we present a first attempt to develop principles and procedures that may mitigate the effects of cognitive biases in the context of business valuation, ultimately reducing the extent of valuation disputes. With that, our findings are also important for legal theory and practice. The Statement of Principles presented in the dissertation serves as a first guideline to embed the awareness of cognitive biases in the context of business valuation. In this context, a noteworthy aspect of the dissertation is that in all the studies we use ecologically valid participants, including legal professionals, entrepreneurs and business valuators across the world. We thereby address criticism on the widespread use of so-called WEIRD-subjects (i.e., Western, Educated, Industrialized, Rich and Democratic students). These types of participants are commonly used in psychology and social sciences studies, but the usability of such studies is sometimes questioned as it is difficult to generalize findings to the real world based on studies conducted solely among a very narrow and specific sample of, typically, American and Western European university students (e.g., Henrich, Heine, & Norenzayan, 2010). Hence, the 'real people' samples used for the studies included in our dissertation enlarges the external validity of the findings, making it more likely that the investigated biases are manifest in practice.

6.2 Limitations of the Research

A review of earlier work indicated several limitations when evaluating the role of biases in the business valuation landscape. That is, the relatively limited number of studies related to biases in the context of business valuation focus mainly on bringing presumptions into valuations of those who analyze and value a company (e.g., analysts, valuators, and managers) so that valuation input variables are affected by biases, resulting in biased valuations (e.g., Damodaran, 2017; Ruback, 2011). In parallel, there is also some anecdotal and professional evidence that suggests cognitive biases might manifest themselves when conducting and perceiving valuations. We bring a new perspective on the role cognitive biases play when judging valuations and valuators in addition to what is already known in the areas of the effects of biases on valuation input variables. Moreover, the anecdotal and professional evidence of the existence of bias when conducting and perceiving valuations is extended by our four empirical studies that demonstrate this phenomenon among key valuation stakeholders.

However, our findings are subject to at least three limitations. The first relates to the valuation cases presented to the participants of the three empirical studies conducted among the identified key parties (i.e., legal professionals, business valuators, and entrepreneurs). These were compressed cases in the sense that the valuation assumptions and the outcomes were summarized and condensed. In addition, they were, from a valuation perspective, somewhat concise. However, in order to be able to include highly experienced participants in the research, we could not have asked them to spend more time on it. Still, the question can be raised whether the findings of the studies could be even more convincing if the participants had been given more details (i.e., adding to the studies' realism).

Second, we used the experimental research methodology that is common in, among others, the behavioral sciences. Even though the cases were realistic and derived from real-life situations, from the perspective of the participants they might have been perceived as hypothetical. The participants were not observed in their own working environment, and they had to empathize with a situation in which they were not actually involved. In this sense, the question can be raised to what extent the observed biases play a role in the real world. However, there are reasons to believe that the findings following on from the experimental method are in fact generalizable to more real-life settings. First, this experimental method enabled us to draw conclusions regarding causal relationships, which is not possible with correlational data. Second, the participants are professionals in their respective fields and affiliated with respected firms. Third, the findings of the three empirical studies were presented to a selective, international sample of leading business valuators. The findings of the three studies were clearly recognized, either in themselves or in others. These are all additional reasons to believe that these biases play a role when judging valuations and valuators.

Finally, we proposed seven principles (our Statement of Principles) with the aim of mitigating the effects of cognitive biases in valuation practice. The Statement of Principles is meant to serve as a first step towards a necessary discussion on how to deal with biases in international valuation practice. Despite some criticism, the respondents were generally positive towards the principles put forward. This research project suggests that valuators have no fundamental objections to principles per se, yet the feasibility, scope and practical usability are in some cases, open to debate. Therefore, whether these principles will have the envisioned effect in practice and whether there is sufficient support for the implementation of such principles warrants further attention.

6.3 Directions for Future Research

This dissertation opens at least four interesting and novel areas for future research. The following research suggestions provide possible directions for this research in order to increase the body of knowledge on our understanding around disputes as a result of a valuation outcome.

1. Our research shows the existence of cognitive biases when judging valuations and valuators. The findings show that not only entrepreneurs and legal professionals appear to be susceptible to cognitive biases when judging valuations and valuators, business valuators themselves also appear not to be immune to biases when assessing a company's value.

Despite the existence of biases in the valuation landscape being frequently denied by valuation and finance professionals (Damodaran, 2015), there are indications that valuators are in fact affected by biases when determining the valuation input variables. However, little is known about how to overcome the influence of biases in this phase of a valuation. Indeed, composers of valuations are typically characterized as rational individuals who prefer to determine (financial) value through complex calculations. As a consequence, much time is spent on valuation inputs and hardly any attention is paid to the influence of biases when determining these inputs. According to Damodaran (2015), valuation practice will be better served if valuators at least discuss the presence of biases when composing valuations and determining the valuation inputs. A striking example of how biases can affect valuation input variables is the Dell Inc. statutory appraisal action which arose out of the 2013 management buyout led by the company's founder (BVR, 2016). As discussed in Chapter 1., one of the Delaware court's findings was that two highly distinguished valuation experts, applying similar valuation principles and methods, generated valuation opinions that differed by 126%, or approximately USD 28 billion. The court observed that this is a 'recurring problem', and in this case the difference in the experts' DCF-valuations was primarily driven by the projected cash flows used. As most stakeholders perceive business valuators as a relevant source for determining a company's value, both might benefit from valuators who pay more attention to the behavioral aspects that affect these valuation inputs. To overcome at least a proportion of the disputes following from valuations, it might be useful to further explore strategies that can mitigate the effects of bias, also in the composition of valuation inputs.

2. In our studies, we investigated an inconclusive number of biases (i.e., similarity bias, outcome bias, gender bias, anchoring bias, engagement bias and buyer-seller position effects). This was largely due to the robustness of some of these biases in other fields, or because of their expected effects based on anecdotal and professional evidence known by the researchers. The findings show that these biases affect the way entrepreneurs, legal professionals and business valuators judge valuations and valuators. However, the literature on biases is almost endless, and it is possible that other types of biases also contribute to the emergence of valuation disputes. For example, we show in the dissertation that relatively little research has been conducted on cognitive biases among entrepreneurs in general (Cossette, 2014) and, to our knowledge, no research had yet investigated the role of biases in diverging value perceptions among entrepreneurs specifically. This gap in the literature provides an opportunity for the further study of what other biases might also contribute to entrepreneurs' perception of a valuation. A similar gap in the literature exists regarding biases among business valuators.

Although these biases are recognized and discussed by leading valuation scientists like Professor Aswath Damodaran (Stern School of Business, NY), this topic has only received scant attention in the literature. In contrast to other fields where there is an extensive body of literature on the effects of biases on judgments and decision making, this type of research is almost nonexistent in the context of business valuation. We therefore believe this is a fruitful area for future research, including the search for possible other biases than those we found. Examples can be (but are not limited to) confirmation bias, optimism bias and the so-called illusion of validity. We also stress the societal importance of further research into gender bias, and how to eliminate this in practice.

3. The presence of cognitive biases among the stakeholders in our studies is believed not to be solely applicable to these groups. Although from a practical point of view these are considered to be relevant in the context of valuation disputes, other stakeholders may play a similar important role. For example, many disputes between shareholders are brought before court. Consequently, judges have to form opinions and in many cases valuation reports are part of the dispute, or the judge appoints a valuation expert and bases his/her judgment on the expert's report. Either way, judges have to evaluate the valuation and/or the valuator. It has been demonstrated in the literature that judges are also susceptible to cognitive biases (Anderson et al., 1993; Englich & Mussweiler, 2001; Epstein et al., 2018; Kneer & Bourgeois-Gironde, 2017; Resnik, 1993) which raises the question if, and to what extent, judges might be susceptible for cognitive biases when judging valuations and valuators.

   Another important stakeholder group are financial institutions (e.g., bankers or other providers of capital). When banks in their role as provider of interest-bearing debt have to assess a provision of debt to a company, or need to consider a haircut (i.e., reduction) of the outstanding debt, they often base their decision for a large part on the valuation of the company. In these circumstances, bankers may also be affected by biases when judging the valuation outcomes and/or the valuators. To enhance the understanding of the causes of valuation disputes, it would be worthwhile investigating whether some of the findings related to entrepreneurs, legal professionals and business valuators are, to some degree, also applicable to for example, judges and bankers.

4. Several professional bodies across the world – ranging from federations of corporate professionals (e.g., accountants, lawyers, valuators, brokers, bankers) to organized professionals such as surgeons or archivists – currently apply "soft" principles or standards that serve as practical guides for (ethical) behavior, beliefs, intentions and/or evaluations of their members. To explore whether business valuators consider the introduction of specific principles that mitigate the effects of biases to be a feasible approach, we introduced a Statement of Principles. Some

research suggests there is little evidence that principles actually affect performance (Doig & Wilson, 1998), whereas others have claimed that the need for principles in business contexts is evident (Rezaee, Elmore, & Szendi, 2001). We aimed to serve as a first step in the development of a comprehensive set of (localized) guidelines for dealing with biases in relation to certain business valuation circumstances. The respondents were generally positive towards the principles put forward and, in general, had no fundamental objections to principles per se, yet the feasibility, scope and practical usability were debated in some cases. It is up to future research to investigate the effectiveness of specific principles in mitigating the effects of biases. Additionally, it is important to investigate how to gain support for principles within a profession characterized by a high degree of individuality and subjectivity. Finally, it may be worthwhile investigating other ways of mitigating the effects of cognitive biases when judging valuations and valuators, e.g. by the introduction of "hard" principles and standards, i.e. formal rules enacted by professional bodies and / or legislators.

6.4 Implications

Our findings have several practical implications and are therefore of interest to business valuators as well as to other stakeholders of valuations.

We have shown potential deficiencies and dangers when judging valuations and valuators because of the effects of cognitive biases. By means of a multi-stakeholder approach (i.e., three important parties of a valuation), the validation of our findings have been strengthened. Where previously only anecdotal and professional evidence existed for the presence of cognitive biases in the context of business valuation, we have now provided empirical evidence. However, we investigated a limited number of biases, as well as only a first selection of valuation stakeholders. Further research into other types of biases and among other stakeholders might indicate an even larger effect of cognitive biases among stakeholders when they judge valuations and valuators. Most importantly, and from a very practical perspective, our research shows that good and sound valuations can be perceived as poor, and poor valuations as sound. This is a real-world, everyday problem that unnecessarily fosters the emergence or extension of valuation disputes among the globe, based on false presumptions and beliefs.

Another practical implication is the finding about the so-called 'bias blind spot' among business valuators. Indeed, this dissertation showed that a majority of business valuators do not think they are affected by cognitive biases, while at the same time they do believe their peers are affected by biases. This type of blind spot may possibly obstruct changing the way valuators conduct their work, as a significant group with the worldwide profession may not consider themselves to be affected by biases.

In conclusion, to mitigate the effects of cognitive biases in the process of judging valuations and valuators, a first step would be to encourage the introduction of a strong focus on the awareness-raising process of these effects among valuators. Valuators are the ones who conduct valuations and are most likely those who should reveal the pitfalls of this problem to themselves, their peers and their clients. Moreover, we strongly believe that valuation professionals around the globe have the moral obligation to tackle biases. Simply for one reason: the interest of their clients.