

# General Conclusion

This thesis contains three essays on evaluation using the experimental method. Evaluation is an important tool for firms. It is therefore important to understand how it works. Evaluation allows the employer to improve his knowledge about his employee's performance. This presupposes that the employer has an initial belief about his employee. This information is, most of the time, imperfect. The appraisal is new information for the employer, it can state, for example if the agent's productivity is above a certain standard. The employer can revise his judgment after the evaluation. The first question raised is how the employer updates his belief about the employee's performance with the imperfect signal provided by the evaluation. Then, the second step of the evaluation, is the evaluation interview. The principal transfers some of his informational advantage to his employee. However, the feedback may be manipulated. The second question is whether principals bias information to modify the agent's motivation and how this impacts the agent's choice of effort level. Finally, we focus on the decision to manipulate the evaluation. The question is whether principals may exhibit some guilt or lie aversion that may decrease the positive impact of manipulation found previously.

The first essay deals with how a principal updates her belief on uncertain productivity after receiving an imperfect signal. We may think that the employer observes only a part of the employee's productivity: that is, the visible and measurable part of productivity. The evaluation gives the employer information if the productivity reaches a certain threshold. Then the employer has to update her belief about the employee's productivity.

How the employer updates her belief with a signal which reduces the number of possible states of the world? We find that these types of signals help subjects to determine the state of the world. However, it may also mistake the subjects when validating their initial belief and leave them highly uncertain. The implementation of signals such as pass/fail tests in a firm on average helps the employer to improve her knowledge of the employee's productivity. However, it may also have some adverse effects and cause them to mistakenly revise their initial belief about their employee. The standard used for the evaluation should be carefully chosen. This paper gives some insights about what kind of tool can help the employer to assess his employee or the job applicant, and pass/fail test seems of little use.

During the evaluation interview, the employer transfers information to the employee. In a situation of asymmetric information to the principal's advantage, the feedback may be manipulated. The second essay analyzes with an experiment the choice and the impact of manipulated feedback. We find that principals send manipulated messages and agents tend to trust the messages and increase their effort. Our results however show a significant difference in manipulation when it increases the true ability rather than when it decreases it. Principals are more reluctant to manipulate feedback in the former situation. Manipulation costs decrease manipulation but does not eliminate it, confirming its strategic dimension.

The last essay extends the possibility of manipulation. In a real effort experiment, we study the supervisor's lying behavior on the agent's performance regarding their agent's true performance and their second order belief. We find that the majority of supervisors are willing to bias their report in order to earn more. 35% employers are willing to manipulate the evaluation so as to increase their payoff at the expense of their workers. While spite black lies and altruistic white lies are almost non-existent, supervisors use frequently selfish black lies and Pareto white lies. In most situations, making the second order beliefs more salient affects neither the propensity of lying nor the nature of lies. An econometric analysis suggests that guilt-aversion is an important driving force of behavior. Indeed, the lying behavior is positively and significantly

correlate to the supervisors' belief about their workers' report.

These three essays contain some limitations that constitute baselines for extensions and future research. In the first essay, we asked the subject to assess an urn composition with an imperfect signal. It should be interesting to study the signal that reduces the number of possible states of the nature in a real effort experiment. Such an experiment can demonstrate, in the specific context of evaluation, the impact of an evaluation that states only if the performance is above or under a certain threshold. We would like to introduce a measurement of the degree of confidence of the subject's answer. We could, for example, ask the subjects to give a confidence interval that their answer is true. As seen in the literature on updating behavior, several studies find that people do not want to change their belief or behavior even when they should. At the opposite, our experiment underlines situations where people modify their initial belief when in fact they should not. Our results indicate that the level of uncertainty about the initial state of the world significantly affects the subject's changing behavior. We suspect that a more accurate variable will be the confidence of people in their initial belief. We expect that the more confident the people in their first estimation (initial belief) the less they change, but we would also like to know if some specific signals or situations can make people doubt about their initial belief even when they were initially confident. To eliminate the effect of second guessing or virtual learning we would like to repeat the experiment by showing the exact same screen twice (with no signal and with signal).

Concerning the second essay, it should be extended in order to study the impact of the size of the manipulation on the agent's effort choice. We should do a similar experiment increasing the range of manipulation allowed to the principal. Therefore, we could study what is the impact of a larger manipulation on the principal decision to bias and on the agent's effort choices. Indeed, if a larger manipulation is allowed, the principal may be detected as a liar and the agent may disregard the information sent. Moreover, we should carry out the game in a repeated environment in order to see the impact on employer's reputation. Indeed, we can compare the impact on the

employee's choice of effort level, of the establishment of trust between the employer and the employee in a repeated game. This extension will distinguish between two possible consequences of reputation. Indeed, we can think that reputation may decrease the choice of manipulation, or it may decrease manipulation's positive impact on effort, or both.

Finally, in the third essay, we could extend our work with a treatment in face-to-face situations. For example, the worker could give their answers sheet to his supervisor. Thus, the supervisor will see the worker before deciding whether to lie. Thus, we could see the impact of the worker's individual characteristics on the supervisor's lying decision. Moreover we could study different degree of knowledge between supervisors and workers. For example, we could paired the subject with someone from the same school or with a closed friend in order to measure the impact of the degree of knowledge on the lying decision. We could also not only ask the supervisor about their belief on the agent's prediction but give the supervisor their agent's prediction. Such extensions would bring some insights about the importance of empathy in the lying decision.

As seen in Lazear (1995) and Lazear and Gibbs (2009), evaluations are a key element in the incentive schemes in firms. However, performance measurements are often inaccurate and may even produce negative outcomes. For example, imperfect evaluations can lead to involuntary or voluntary biases by the employer. Managers may give a poor rating to an employee due to an imperfect measurement of the worker's performance. Managers may also voluntarily overestimate the employee's performance to avoid giving bad news.

This dissertation puts some light on the impact of imperfect information in an evaluation context. We use the experimental method because particularly appropriate to study this topic, whereas collecting accurate data is impossible in the field. Due to our methodology, direct implementation of our results in the real world is not straightforward. However, we believe that we show some general tendencies in behavioral aspects of the evaluation problem. Economic theory claims that more information is always useful. Our first

experiment confirms that on average, new information helps subjects to determine the state of the nature. However, this new information may also give rise to mistakes in their evaluation of the state of the nature. This suggests that managers may be wrongly influenced by the results of the evaluation if the information is not precise enough. Firms try to avoid possible biases in the evaluation given by the manager to the employee. The results of the second essay moderate the negative effect of the biased evaluation. The possibility of a credible manipulation may lead to an increase in the employee's choice of effort. Hence, managers may be able to increase their employee effort with the adequate manipulation of their evaluation. The last essay of this thesis draws some conclusions on the use of uncontrolled manipulation. It has been shown that many people are willing to lie about someone else's performance in order to increase their own payoffs in the laboratory. However, guilt aversion is an important determinant in the choice to lie. Firms may exploit this result by increasing the guilt that an employer may feel by manipulating the employee's evaluation.