University of Fribourg / Faculty of Science / Department of Mathematics Three Essays on Risk Filtering in Contract Theory Daniel Kauth

Optimal contract designs for performance based executive compensation are not only heatedly discussed in politics and the media. Contracts of agents (managers) running a company on behalf and in the best interest of its owners (shareholders / principals), became the heart of the research field of contract theory. A good contract design between these two parties gives incentives to the agent to overcome the unaligned goals, by making the compensation dependent on the firm's outcome, and provides her with at least the minimal expected level of utility to make the contract offer acceptable. Filtering exogenous risk factors out of the risk averse agents' incentive contract by using information about peer outcomes will reduce their compensation risk exposure and make the contract more effective. We call these contracts Relative Performance Evaluation (RPE) contracts. This thesis explores various reasons for the divergence between the theoretical results from the standard models and the implementation of RPE contracts in practice.

The first part of this thesis introduces an extended, multiperiod risk setting in which the dynamics of optimal independent single-period RPE contract parameters are analyzed. Considering that only the a priori distribution of the central tendencies of the market risk and the idiosyncratic risks are known, the agent is exposed to what will be called misjudgment risks. The outcomes of the focal firm and its peers are observable and allow for information updating as well as for the adjustment of the time dependent optimal contract parameters. I identify the direction and the speed of the changes of the RPE-weights over time and explain why the incentive rate is increasing during the updating process.

In the second part of the thesis, the impact of the extended risk setting on the optimal contract parameters of renegotiation-proof long-term RPE-contracts is analyzed. The qualitative findings turn out to be similar to the ones for the analysis of the single-period RPE contracts but the deviations from the results of the standard models are even stronger.

In the third part of this thesis, I discuss the impacts of an agent's beyond- contract alignments with the firm's objectives on RPE contract parameters. I find that in situations where agents rationally adapt their alignment levels, simple con- tract designs may become preferable to RPE contract designs.

Jury:

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