

# Information Updating and Contracting in a RPE Model

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The contractual relationship between a principal and an agent will be studied using a RPE (relative performance evaluation) model, which links the agent's compensation to two observable signals, namely the firm's and the peer's performances. The RPE-contract will be extended to a dynamic multi-period setting, where the main goal will be to find the optimal contractual parameters and to study them. But before doing so, one needs to take into account, that the firm and his peer are not only exposed to idiosyncratic and market risks. Furthermore, the central tendencies of those noise terms are uncertain and thus create additional risk. To overcome this additional risk an updating process, which allows to use the past observations about the performances, will be used. The contractual parameters of this model are not static values. Actually, they are modelled as time dependent and thus evolve through time. In this dynamic information setting the RPE-weights can monotonically increase or decrease over time, such that it is interesting to find the model parameters which influence the directional changes of the RPE-weights.

Our study of the optimal contractual relationship of the two parties focuses firstly on successive independent one-period RPE-contracts and then it will be generalized to long-term renegotiation-proof RPE-contracts.

So far, we have not focused on the agent's beyond-contract alignments with a firm, but it is certainly an important factor to consider. Thus, we will end the investigation by studying agents with conflicting, compatible and with excessive alignments and their impact on the RPE-weights.

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