## "Relational Contracts With Present-Biased Preferences"

By

## Johannes Buckenmaier, Florian Englmaier, Matthias Fahn

Many aspects of interactions between economic agents cannot be pinned down in formal, court-enforceable contracts. Hence, the analysis of relational contracts (implicit arrangements) – has received a lot of attention. There, the degree of cooperation depends on people's perceptions of the future relationship value. However, parallel research in behavioral economics has shown that peoples' inter-temporal preferences are not consistent.

We analyze an infinite-horizon model where effort is observable but not verifiable. The principal has "standard" preferences, while the agent is present-biased and either naïve (not aware that this bias remains) or sophisticated (aware that the bias remains). We show that, compared to the standard exponential discounting models, the structure and efficiency of relational contracts differs crucially.

Relational contracts especially with a naïve agent have some interesting features. It is optimal to offer her a *menu of contracts* in every period: A *real* contract which the naïve agent always chooses, and a non-stationary *virtual* contract, which she wrongly expects to select in the future. The virtual contract allows the principal to enforce a higher effort level than with a sophisticated agent. The reason is that the agent expects the future to be more productive than it actually is. Furthermore, the agent herself can benefit from being naïve, namely when the relationship-surplus is small. Then, using the virtual contract to increase efficiency is associated with a higher real payoff of the agent. For a higher-surplus relationship, however, the principal optimally shifts payments into the virtual contract, reducing the agent's real payoff.