	Т	Fakultät III Wirtschaftswissenschaften, Wirtschaftsinformatik und Wirtschaftsrecht	
Summer 2025	Mock Exam 1	Matrikel-Nr.:	
Courses:	Master of Econom	nic Policy	
Examination: Games and Information			
Examiner: Koch			

- The examination assignments consist of two pages and have to be returned together with the solution!
- Dictionaries and non-programmable calculators are admitted tools.
- The examination time amounts to 60 minutes.

Consider the following exit game: Two players are operating in a longstanding coalition. Over the years it turns out that player I is disappointed of the distribution of the common outcome and claims a larger share. Player I may quit the cooperation and make a proposal for a loose cooperation and a new distribution. Player II may accept the proposal or fight in order to loose as little as possible. However, player I may not know in advance whether player II will be a strong or a weak fighter. A priori he gives player II a 60% probability to be strong.



- 1. Find the subgame perfect Nash-equilibria of the two subgames with initial nodes  $I_A$ and  $I_B$ , respectively. (2 points)
- Now consider the full sequential game. Characterize the information structure, explain why there can be only one strategy of player II compatible with perfect Bayesian equilibrium, and find the perfect Bayesian equilibrium. (2 points)
- 3. Can the perfect Bayesian equilibrium change if the priors change? (1 point)



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Now assume  $I_A$  and  $I_B$  are singletons but  $II_A$  and  $II_B$  belong to one information set.



- 4. The strategies of player II now are { agree, reject }. Show that the best answers of player one to the strategies of player II are either always quit or always stay. (1 point)
- 5. Find the best answers of player II to always quit and to always stay. (Hint: Use the priors and explain why!) (2 points)

6. What is the perfect Bayesian equilibrium of the game? (2 points)