EE403 Law and Economics
Semester 1/2014
Homework 2

Submission Date: Friday 21 November 2014; 14:00 hr.

Mary has $1.0 million in savings and has been approached by John who is a professional fund manager. John offers to manage Mary's savings for one year with a guarantee of the return of $0.2 million for Mary. However, investment also incurs risks for John.

Assuming an enforceable contract, use the method of agency game to analyze the optimal solutions for Mary and John in the following cases:

Case 1: Good luck
- John makes $0.4 million profits.
- Or John does not manage the fund and returns it to Mary.

Case 2: Bad luck
- John makes losses of $0.1 million.
- Or John does not manage the fund and returns it to Mary.

Analyze Mary's and John's decisions in each case and explain why such decisions are efficient.

		John			
		Good luck		**Bad luck**	
		Perform	**Breach**	**Perform**	**Breach**
Mary	**Invest**	0.2 0.2	-0.2 0.2	-0.3 0.2	-0.2 0.2
	Not invest	0 0	0 0	0 0	0 0

Answer:

Case 1: Good luck

If Mary does not invest, there will be no cooperation with zero returns. But if Mary decides to invest, she will receive profits of $0.2 million no matter whether John performs or breaches. So Mary will invest.

If John performs, he will make total profits of $0.4 million. John must give $0.2 million to Mary and keeps the remaining $0.2 million for himself. But if John breaches the contract, he will have to compensate Mary for the promised $0.2 million out of his own pocket. So John will perform to maximize his own profits. The optimal solution is thus 'Mary will invest and John will perform'.

This solution is also the most efficient because the combined profits (or the surplus from cooporation) for Mary and John are maximized at $0.4 million.

Case 2: Bad luck

If Mary does not invest, there will be no profits to be shared. But if Mary decides to invest, she will receive profits of $0.2 million in all cases. So Mary will invest.

If John performs, he will make losses of $0.1 million and also have to pay $0.2 million to Mary as promised. So John's total losses in case of performance is $0.3 million. But if John decides to breach the contract, he only have to compensate Mary for the promised $0.2 million. So John will minimize his losses by breaching the contract and pays $0.2 million to Mary. The optimal solution is 'Mary will invest and John will breach the contract'.

The solution is also the most efficient because the combined losses for Mary and John are minimized to zero.