AEB 4138 – Assignment 1

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1. Consider the capital market equilibrium in Figure 1. After much quantitiative easing the monetary authority has been able to reduce the interest rate to r^*.

   a. Who is the borrow and who is the lender?

   b. Graph the production possibility curve/utility function for Robinson Crusoe and the natives.

2. Consider the loan/payoff sample in Table 1.

   – What is the mean and variance of the rate of return for this loan portfolio? [The data is given in "LoanPort01-11-18.xlsx"]

   – How correlated are the returns to lending?

   – What happens to the mean and variance of the lending portfolio if we take $ 4,000 from borrower 1 and lend it to borrower 2?

Table 1: Observed Returns for Loan Portfolio

			Loans		
		1	2	3	4
Loan Amount	94,000	130,000	67,000	34,000	
Portfolio Share	0.289	0.400	0.206	0.105	
			Interest Received		
1	14100	20800	8710	4420	
2	14100	20800	8710	4420	
3	0	20800	8710	4420	
4	0	20800	8710	4420	
5	14100	20800	8710	4420	
6	14100	20800	8710	4420	
7	14100	20800	8710	4420	
8	0	0	0	0	
9	0	0	0	0	
10	14100	20800	8710	4420	
11	14100	20800	8710	4420	
12	14100	20800	8710	4420	
13	14100	20800	8710	4420	
14	0	20800	0	4420	
15	0	0	0	4420	
16	14100	20800	8710	4420	
17	14100	20800	8710	4420	
18	14100	20800	8710	4420	
19	14100	20800	8710	4420	
20	14100	20800	8710	4420	
21	14100	20800	8710	4420	
22	0	20800	8710	4420	

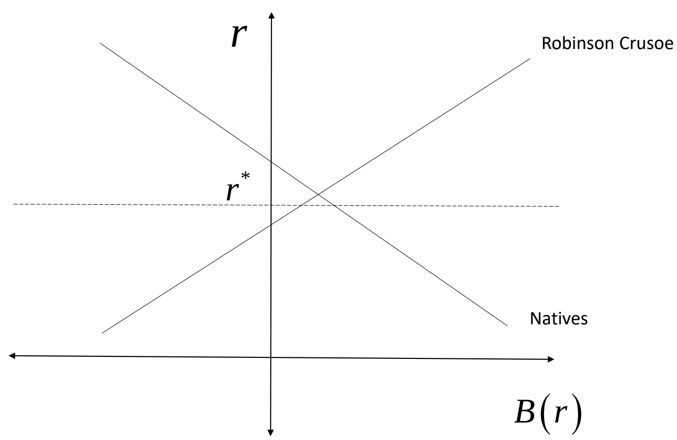

Figure 1: Capital Market Equilibrium