Ralph's Accruals & Debt[1]

Ralph has organized his lumber operation as a corporation, to provide limited liability. He borrowed $65,000 from a bank and invested the proceeds in milling facilities with a two-year life. The terms of the bank loan are a zero market rate of interest (for convenience) and two installment repayments: $20,000 at the end of the first year and $45,000 at the end of the second year. The cash flows from the lumber business will be $35,000 at the end of both the first and second years. However, Ralph has the opportunity to invest an additional $10,000 in the business at the end of year one and, if he does, he increases cash flow at the end of the second year by $15,000. Ralph makes decisions to maximize his consumption opportunities over the two-year period.

Required:

1. Will Ralph take the value-increasing $10,000 investment? Why or why not?

2. If the bank anticipates that Ralph will forgo the investment and default on the second period payment, how would you expect the bank to alter the loan to incorporate the expected loss?

3. The problem with both of the above solutions is not the expropriation of wealth but rather the forgone investment opportunity (i.e., the under-investment problem or failing to pursue socially attractive opportunities). Suppose that a contract restricting the first period dividend to accrual earnings (i.e., cash flows less an allocation of original investment; assume straight-line depreciation for simplicity) was written. Would Ralph take the investment opportunity at the end of the first year? Would the bank be satisfied? Is this socially beneficial?

[1]This example is borrowed from Watts, "Accounting Choice Theory and Market-Based Research, *British Accounting Review* (1992), 235-267.