Economics of Banking
Hints for solution

1. The problem described has to do with the problem of rationing in the credit market and is described in Ch.8. The theoretical explanation deals with backward-bended supply of credits, and this in its turn is explained by relation between nominal and expected repayment which in the beginning is increasing but eventually becomes decreasing. There are several possibilities for such a relationship, including adverse selection, moral hazard, and costly monitoring of borrowers. A financial institution assisting borrowers in obtaining credits should look for the proper explanation in the case at hand.

For the second part of the problem, one has to compare the Stiglitz-Weiss model of credit rationing under adverse selection, where uncertainty of outcome has a form such that risk increases with expected payoff, with the deMeza-Webb model describing almost the same situation but with another formalization of risk, and where more credits are offered than what is socially optimal. The text indicates that the second sector is of deMeza-Webb type and therefore it should not be assisted. (Alternative interpretations of the text are accepted provided that they are given proper argumentation.)

2. The case described is known as "riding the yield curve", and it is treated in Ch.16 on irregularities in the banking sector. In a case where interest rates show an increasing trend a financial enterprise may arrange a bankruptcy for profit by setting up the portfolio over some years for as much borrowed money as possible, and then pay out dividends to the owners in the first years, since cost is accounted according to the yearly interest rate which is low at the beginning. Since the interest rates increase, this will produce a deficit eventually, and then the company goes bankrupt, but the payoff on the capital invested by the owners may have been quite large.

3. We have here a case where borrowers differ from the beginning with respect to their competences (adverse selection), but in addition to this, there is also some aspect of moral hazard. The text indicates that effort is important if the borrower is less talented but superfluous otherwise. This points to the model by Bott, Udell and Thakor (described in Ch.7) which shows that the social optimum (where the less talented puts up costly effort and the talented does not) can be sustained by a suitable system of differentiated contracts specified by repayment rate and collateral. If the collateral is set to the right amount, the less talented will choose the contract with collateral (sp that the possible loss of collateral provides incentive for education) whereas the talented will take the unsecured loan.
(The model of Bester (Ch.8), which also deals with cases where the bank faces two types of borrowers, involves only adverse selection and not moral hazard, so if this model is used, it should be explained how it could be adapted to account for moral hazard.)