Reputation in Banking and Deposit Insurance:
The Dynamics of Borrowing and Lending under Regulation

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Abstract

Debt contracts are cost-efficient rules designed to control opportunistic behaviour on the part of managers, who are assumed to have better information than lenders. Although contracts are imperfect, in practice managers voluntarily forbear from many kinds of opportunistic actions. They do so because the reputation for forbearance is valuable to them and their firms. A concern for reputation would help to align the interests of lenders and stockholders. Game theoretic approaches have been applied to explain formally how reputation is created and maintained in a multiperiod scenario under very restrictive initial assumptions. An S.D. approach is considered studying the dynamics and feedback effects of the borrower-lender relationship, modelling the behaviour of "Banco Herrero", a Spanish local bank when dealing with its customers and the regulator.

Introduction

We consider two borrower-lender relationships: depositors-bank relationship and bank-loan demanders relationship and we try to identify and model the differences in the amount of information required for both types of lenders (*depositors* in the first relationship and *bank* in the second relationship) to trade with borrowers. We argue that reputation and deposit insurance are both substitutes of information and monitoring when trying to avoid the effects of opportunistic behaviour.

The asymmetry of information between borrowers and lenders contributes to the existence of agents that specialize to profit from scale economies when examining and evaluating borrowers. It is too costly to analyze at the individual investor level the creditworthiness of all the investment opportunities that exist in the market and monitor those opportunities. Then, multiple investors will find it more profitable to deposit their funds at the bank against the promise to make certain payments and the bank will give this money in the form of loans.

It also may be that multiple investors give money to a single agent because no investor is rich enough to finance a given project (loan) alone, or because no investor wishes to bear the risk of financing the project alone (investors are risk-averse) or to harden the entrepreneur's budget constrain. Whatever might be the case, disperse shareholders/creditors have little or no incentive to monitor management. The reason is that monitoring is a public good: if one shareholder's (*debtholder's*) monitoring leads to improved company performance, all shareholders (*debtholder's*) benefit. Given that monitoring is costly, each shareholder (*debtholder*) will free-ride in the hope that other shareholders (*debtholder*) will do the monitoring. Unfortunately, all shareholders (*debtholder*) think the same way and the net result is that no - or almost no- monitoring takes place. See Hart (1995: 127)

Therefore, as lenders may ignore the credit quality of final borrowers they may ignore the credit quality of banks. So as well as the bank should control borrowers' opportunistic behavior, depositors should control the opportunistic behavior of the agent(bank), however, they seem to fail. This fact may not be important if the amount of information that a depositor needs to trade with a bank is minimal, compare to the amount of information a bank needs to trade with a borrower. We try to identify and model why are these differences in the amount of information required and why reputation is important in the bank-borrower case and not important in the depositor-bank case.

The model

The model studies informational actions devised by lenders when allocating funds. It is run with two sets of parameters: for the depositor-bank relationship and for the bank-borrower relationship.

We assume that depositors have to place their funds in one or various banks (so they have to choose among banks and then decide to what extend they will monitor bank creditworthiness) and banks have to invest the money in the form of loans (so they have to choose among borrowers and also monitor them). Then, the decision is whether and how much information to collect, that is to say, a decision concerning whether and how to improve one's state of knowledge before coming to a terminal decision which is in this case the allocation of funds. [See Hirsheifer & Riley (1992) for a more detailed description of informational and terminal decisions].

In the model, information (See figure 1) is considered both as a) knowledge and experience (know-how) and as b) An accumulated body of timely data or evidence about the world (Stock of up-to-date news). Information as know-how increases through repeated trading (experience) and through the implementation of technology. The limits to the growth of know-how depend on the state-of-the-art of technology and on a certain critical level of experience which, when approached, progressively reduces the benefits gained from additional experience. Know-how is out-of-date through innovation so it does not depend so much on time but on sporadic events with no "timetable".

Information as a stock of up-to-date-news depends on pieces of information that get quickly up-to-date and are more volatile. Also since you can never know in advance what you will be learning from the news, you can never purchase a message but only a message service which implies that some of the gathered information is useless, repeated or difficult to interpret.

Being informed is costly and it is only worthwhile if it is possible to obtain an extra return on this information. Information can be obtained through experience, direct market purchase, by observing the market choices of better-informed traders or drawing inferences from people's reputation acquired in the course of their previous market dealings. Know-how is lengthy to obtain and easy to maintain while up-date news are quickly obtained although quickly get out-of-date. If revenue from the loan investment is as expected (debt is fully recovered), then there is no need to increase the resources dedicated to obtain more information and information costs tend to be reduced if debt is once and again recovered.

Figure 1 - *Information and other means of increasing the probability of debt repayment*

If the cost of being informed is too high then alternatives must be devised if trade is to take place, a high probability of debt repayment is ensured through different substitutive channels. This objective may be warranted if the probability of the investment outcome is high even if there are no collaterals and reputation is non existent or unknown. Alternatively the probability of a poor investment outcome may be high or unknown but collaterals or reputation may suffice to have a high probability of debt repayment. The advantage of collaterals is that there is little need for information once it is proved to be a valid collateral,

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so collaterals are a substitute for information and so is reputation (it is only necessary to know if all the previous debt payments have been honoured).

Preliminary results

For final borrowers, reputation would be important because they would find it profitable to forbear from opportunistic behaviours if in the long-term debt costs are reduced through lower interest rates in future loans. Banks when dealing with multiple final borrowers are reducing risk, since the risks associated with different assets are generally partially offsetting, diversification reduces the chance of ending up with an extremely poor results. Diversification implies a search for alternative trading partners however risk reduction can take place with a reduced information about partners creditworthiness.

In regulated markets depositors should not care about bank creditworthiness, they are protected through deposit insurance and if they are protected enough, which is normally the case, they have no incentives to obtain extra information. It would not be worthwhile to obtain and process information which implies only new costs, nor even diversification would be worthwhile.

Spanish bank "Banco Herrero" did not profit from the existence of deposit insurance coverage. The bank followed conservative loan policies which lead to reducing the local loan portfolio and increasing the interbank loan portfolio (leaving the job of allocating funds to final borrowers to other banks).

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