CHAPTER 3

THE SIMULTANEITY ISSUE IN DEPOSIT AND CREDIT RATE SETTING

The issue of simultaneity, independence or recursivity in the deposit and credit rate setting is of twofold importance.

On the one hand, independence or recursivity would make bankers' life easier as well as simplify the presentation of this study, since deposit and credit rate decisions could be treated one at a time.

On the other hand, the issue has important monetary policy implications. For instance, independence would preclude any effects of deposit rate ceilings on credit rates.

The first section (3.1) presents a simple one-period neoclassical model, very similar to those developed in the early 1970's by Klein [1970] and Monti [1972]. The credit rate decision appears in this model to be independent of the deposit rate choice and vice versa.

This simple model is unsatisfactory because it ignores an essential function of financial intermediation stressed in Chapter Two, namely the risk sharing activity between depositors and shareholders.

This risk feature is introduced in Section Two (3.2) by taking into consideration the eventual failure of the borrower and of the intermediary to honor their debt commitment. Section Two's model can be interpreted as a synthesis of Jaffee-Modigliani [1969] dealing with borrower's bankruptcy but ignoring bank failure, and Greenbaum-Taggart [1978] dealing only with the intermediary's bankruptcy.¹

¹Greenbaum-Taggart were not concerned with interest rate setting but with the appropriate liability structure composed of equity and debt traded both on a perfect market.
The independence between rate decisions is lost in Section Two's model but a plausible hypothesis, consistent with the facts, suggests recursivity. Deposit rates are set first, independently of loan rates. However, the optimal loan rate is a function of the deposit rate.

3.1 THE NEOCLASSICAL MODEL

We first discuss the assumptions concerning the market structure and the objective function. The neoclassical model follows.

*Market structure and net present value maximization*

We follow the spirit of the 1970's models and assume that the intermediary faces a downward sloping demand curve for loans and an upward sloping supply curve for deposits.

The relevance of oligopolistic models depends of course on reality but we would think that some financial markets are characterized by imperfect competition. Very often, bankers would welcome more loans and deposits at the quoted rate but will not change the rate, because of adverse effects on marginal revenue or cost. Such a behavior is typically observed in imperfectly competitive markets.

Barriers to entry (such as economies of scale, advertising expenses, regulatory controls on entry and minimum equity requirement) and the institutional rate setting context in some countries create obvious imperfections in financial markets. Also, the existence of fixed costs associated with a customer's decision to move from one bank to another (information, administrative and 'customer relationship' costs) makes the loan demand and deposit supply curves less than perfectly elastic. All these reasons suggest the relevance of the imperfect competition hypothesis.

As to the objective function, we follow the trend in corporate finance theory and assume that shareholders want to maximize the net