FREIXAS AND ROCHET (2008) MICROECONOMICS OF BANKING, CHAPTER 1

Introduction

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Introduction

1.1 What is a bank, and what do banks do?

1.2 Liquidity and payment services

1.3 Transforming assets

1.4 Managing risks

1.5 Monitoring and information processing

1.6 The role of banks in the resource allocation process

1.7 Banking in the Arrow-Debreu model

1.1 What is a bank, and what do banks do?

- Definition: a bank is an institution whose current operations consist in granting loans and receiving deposits from the public.
- Banking function categories:
  1. Offering liquidity and payment services.
  2. Transforming assets.
  3. Managing risk.
  4. Processing information and monitoring borrowers.

1.2 Liquidity and Payment Services

- Given the existence of frictions in trading operations, it becomes more efficient to exchange goods and services for money, rather than for other goods and services, as in barter operations.
- Evolution from commodity money to fiat money.
- Historically, banks played two different parts in the management of fiat money: money exchange and provision of payment services.

1.3 Transforming Assets

- Convenience of denomination: small deposits and large loans.
- Quality transformation: better risk-return characteristics than direct investment.
- Maturity transformation: short for long maturity.

1.4 Managing Risks

- Credit risk: under collateralization.
- Interest rate risk: due to the difference in assets and liabilities maturities.
- Liquidity risk: due to the difference in the marketability of the claims issued and that of the claims held.
- Off balance-sheet operations: not a genuine liability or asset for the bank but only a conditional commitment.

1.5 Monitoring and Information Processing

- Banks invest in technologies that allow them to screen loan applicants and to monitor their projects.
- Long-term relationships that mitigates the effects of moral hazards.

1.6 The Role of Banks in the Resource Allocation Process

- Banks exert a fundamental influence on capital allocation, risk sharing, and economic growth (but subject to debate).

1.7 Banking in the Arrow-Debreu Model

- "A microeconomic theory of banks could not exist before the foundations of the economics of information were laid (in the early 1970s)".

Household's Program

Households choose consumption levels C_1 and C_2, bond holdings B_h and deposits D_h to

$$\max \quad u(C_1, C_2)$$

subject to

$$C_1 = \omega - B_h - D_h$$

$$C_2 = \pi_f + \pi_b + (1+r)B_h + (1+r_D)D_h$$

where ω is endowment, π_f and π_b are profits from the ownership of firms and banks respectively, and r and r_D are interest rates on bonds and deposits. Household takes these 5 variables as given when solving the maximization.

Firm's Program

Firms choose investment I, bonds B_f and loans L_f to

$$\max \quad \pi_f$$

subject to

$$\pi_f = f(I) - (1+r)B_f - (1+r_L)L_f$$

$$I = B_f + L_f$$

where r_L is the interest rate on bank's loans that the firms take as given.

Bank's Program

Banks choose investment loans L_b, bonds B_b and deposits D_b to

$$\max \quad \pi_b$$

subject to

$$\pi_b = r_L L_b - r B_b - r_D D_b$$

$$L_b = B_b + D_b$$

General Equilibrium

Characterized by a vector of interest rates (r, r_L, r_D) and three vectors of demand and supply levels - (C_1, C_2, B_h, D_h) for the consumer, (I, B_f, L_f) for the firm, and (L_b, B_b, D_b) for the bank - such that

◦ each agent behaves optimally (their decisions solve the previously described programs);

◦ each market clears :

* $I = S$ (good market)
* $D_b = D_h$ (deposit market)
* $L_f = L_b$ (credit market)
* $B_h = B_f + B_b$ (bond market)

Irrelevance of banks with complete markets

- **Result 1.1** If firms and households have unrestricted access to perfect financial markets, then in a competitive equilibrium:
  - Banks make zero profit;
  - The size and composition of banks' balance sheets have no effect on other economic agents.

- This rather disappointing result extends easily to the case of uncertainty, provided financial markets are complete.