

TITLE HOW DOES THE STRUCTURE OF FINANCIAL FLOWS AFFECT THE STABILITY OF THE BANKING SYSTEM?

**Cristian Gulei Gradinaru Ph. D Student
University of Craiova
Faculty of Economics and Business
Administration
Craiova, Romania**

Abstract: Rochet constructs a model of the payment flows that allows him to capture in a simple fashion the propagation of financial crises in an environment where both liquidity shocks and solvency shocks affect financial intermediaries that fund long-term investments with demand deposits. Forbes maintains that banking crises are a serious concern and can be extremely costly. Landier and Ueda examine cases in which restructuring can bring economic gains.

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1. INTRODUCTION

Rochet views bilateral exposures as reflecting bilateral trust and thus interbank monitoring. The traditional thinking about prudential systems can shed, after some adjustment, new light on the desirable organization of payment systems. Rochet discusses how standard arguments of industrial organization and corporate finance could be used to shed light on alternative organizations of the payment system, and provides an analytical framework encompassing existing systems and suggesting a new organization that combines the benefits of centralized and decentralized arrangements. Rochet explores the possibilities of contagion from one institution to another that can stem from the existence of a network of financial contracts. Rochet analyzes interbank networks, focusing on possible liquidity shortages and on the coordinating role of the financial authorities in avoiding and solving them. Rochet constructs a model of the payment flows that allows him to capture in a simple fashion the propagation of financial crises in an environment where both liquidity shocks and solvency shocks affect financial intermediaries that fund long-term investments with demand deposits. Rochet introduces liquidity demand endogenously by assuming that depositors are uncertain about where they have to consume, concentrating on systemwide financial fragility and central bank policy issues. Liquidity demand arises from the strategies of agents with respect to the coordination of their actions. Under normal conditions, a system of interbank credit lines reduces the cost of holding liquid assets. The structure of financial flows affects the stability of the banking system with respect to solvency shocks. Interregional financial connections arise because depositors face uncertainty

about the location where they need to consume. Rochet focuses on the implications for the stability of the system when one bank may be insolvent.

2. OBJECTIVES

The objective of this paper is to draw attention onto the financial flows affecting the stability of the banking system. These facts have been already mentioned by other scientists quoted in the present paper, but their involvement in the study of such situations includes only the causes that generates instability to the banking system. I will try to provide information regarding the effects of the financial flows and means to counteract case of negative impact onto the banking system.

3. METHODOLOGY

Rochet sets up his basic model of an interbank network, describes the coordination problems that may arise even when all banks are solvent, analyzes the "resiliency" of the system when one bank is insolvent, investigates whether the closure of one bank triggers the liquidation of others, and shows under which conditions the intervention of the central bank is needed to prevent a domino of contagion effect. Rochet provides an example of asymmetric travel patterns and its implications for central bank intervention. Rochet tackles the issue of the impact of the insolvency of one bank on the rest of the system, investigating under which conditions the losses of one bank can be absorbed by the other banks without provoking withdrawals by depositors and what are the implications in terms of market discipline. Rochet considers the issue of contagion, investigating whether the closure of an insolvent bank generates a chain reaction causing the liquidation of solvent banks. A diversified lending system is more exposed to market discipline than a credit chain system (in the latter the insolvent bank is able to transfer a larger fraction of its losses to other banks, thus reducing the incentives for its own depositors to withdraw). The interbank market allows the minimization of the amount of resources held in low-return liquid assets. The resiliency of the interbank market allows it to cope with liquidity shocks by providing implicit insurance. Both the central bank and the depositors have only imperfect signals on the solvency of commercial banks. Rochet suggests the adoption of "market based" risk weights, i.e., weights proportional to the systematic risks of these assets, measured by their market betas. Rochet does not neglect the limited liability of the banks under study, showing that it implies that insufficiently capitalized banks may exhibit risk-loving behaviors. Rochet develops a new formal model that tries to incorporate the most important criticisms of existing theoretical models of bank regulation, shows that minimum capital ratios can be justified by a classical agency problem between bankers and regulators, even in the absence of mispriced deposit insurance, demonstrate that, under restrictive conditions, these capital requirements can be reduced if banks are mandated to issue subordinated debt on a regular basis (direct market discipline).

4. ANALYSES

Rochet explores the interactions between market discipline and supervisory action and shows that they are complementary rather than substitutes. Banks create value by monitoring borrowers, and thus acquire private information about these borrowers. The justification of a minimum capital ratio is not an asset-substitution problem but an agency problem between the banker and the supervisors. Rochet interprets bank solvency regulations as a closure rule intended to avoid shirking by

insufficiently capitalized banks. Bank assets are opaque and cannot be marked to market in continuous time. Bank supervisors can rely on market information and adapt the intensity or frequency of their examinations to the market assessment of the bank's situation. Rochet considers what would happen if subdebt holders were de facto insured in the case where the bank is liquidated. Mandatory subdebt (direct market discipline) may, under some restrictions, allow regulators to decrease capital requirements, market discipline and supervisory action are complementary rather than substitutes: one cannot work well without the other. Banking authorities should keep arm's-length relationships with bankers and scarce supervisory resources should be used, according to priority, to control the behavior of banks in distress. Capital requirements should be viewed as intervention thresholds for banking supervisors rather than complex schemes designed to curb banks' asset allocation. Rochet focuses on what to do when banks do not comply with capital requirements. Rochet focuses on *systematic* risk, generated by a common exposure of banks to macroeconomic shocks such as recessions, asset markets crashes, and the like.

Rochet analyzes the impact of the liability structure of firms on their choices of investment and on their overall performance, and incorporates features that he believes essential to capture the specificities of commercial banks. Rochet models banks as "delegated monitors" by considering that banks have the unique ability to select and monitor investments with a positive net present value and finance them in large part by deposits. The value of the bank is affected both by closure decisions and by moral hazard on investment monitoring by bankers. Rochet provides the justification for solvency regulations: a minimum capital requirement is needed to prevent insufficiently capitalized banks from shirking. Rochet introduces market discipline through compulsory subordinated debt, and shows that, under certain circumstances, it may reduce the minimum capital requirement. Rochet analyses supervisory action, and show that direct market discipline is only effective when the threat of bank closures by supervisors is credible (indirect market discipline can also be useful in allowing supervisors to implement gradual interventions). *Indirect* market discipline can be used to implement a more elaborate regulatory policy (when regulatory forbearance is excluded). Rochet designs a simple dynamic model of commercial bank behavior, where the articulation between the three pillars of Basel II can be analyzed. Rochet interprets the first pillar (capital adequacy requirement) as a closure threshold rather than an indirect mean of influencing banks' asset allocation. Market discipline (the third pillar) can be used to reduce this closure threshold, especially if there is a risk of regulatory forbearance. Rochet reexamines the traditional view on the supervisory role (second pillar). Supervisors can modulate the intensity of their interventions according to reliable signals given by market prices of the securities issued by banks.

Forbes maintains that banking crises are a serious concern and can be extremely costly. The seven key lessons for bank reform on which Forbes focuses are: enact sound prudential regulations, independent supervision and strong corporate governance; provide partial, risk-adjusted deposit insurance; ensure banks operate on a commercial basis, free from political interference; encourage foreign investment in the banking system; combine bank reform with corporate restructuring; establish well-defined and speedy bankruptcy laws; and act promptly. Concentrated lending exposure can lead to banking problems. Prudential banking regulations should include guidance on valuing government securities to incorporate risk and accounting for (or even limiting) currency mismatches. The supervisory agency should establish requirements for reporting,

transparency and all-around sound corporate governance. Deposit insurance can be important in helping small banks compete with larger banks, unlimited deposit insurance can make banks less sound by encouraging them to take greater risks and reducing the incentives for depositors and regulators to monitor the banks. Providing unlimited insurance coverage can substantially increase the fiscal cost to the government if there is a problem in the banking system. Forbes claims that countries wishing to strengthen their banking systems should seek to improve their regulation, supervision and corporate governance. Encouraging mergers with or purchases by strong domestic or foreign banks can help ensure that privatization leads to a stronger and more efficient banking system. Encouraging foreign investment in the banking system can have widespread benefits. In developing countries foreign banks can bring in improved accounting standards, corporate governance, and transparency. Foreign banks tend to have more aggressive loan provisioning and higher loan recovery. The presence of foreign banks can also increase competition in the banking system. If governments focus solely on the banking system and ignore related corporate problems, any attempts to strengthen the banking system will be futile over the longer term. Several countries have had recurring banking crises, even if they constantly recapitalize banks to fix the "stock", but ignore the more difficult issue of limiting the continued "flow" of unprofitable lending. Bankruptcy laws today should provide a chance for an organization to reorganize and restructure. Countries wishing to strengthen their banking systems should not hesitate to draw on outside expertise.²

Landier and Ueda start their analysis with a simple frictionless benchmark, and exclude the possibility of debt renegotiation. Landier and Ueda examine cases in which restructuring can bring economic gains. The government should gather accurate information on underlying assets through rigorous bank examination and utilize it in designing restructuring options. The best course for a government is to combine several restructuring options to solve the multifaceted problems.³

5. CONCLUSIONS

Indirect market discipline can be used to implement a more elaborate regulatory policy (when regulatory forbearance is excluded). Prudential banking regulations should include guidance on valuing government securities to incorporate risk and accounting for (or even limiting) currency mismatches. The supervisory agency should establish requirements for reporting, transparency and all-around sound corporate governance.

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