

# DO FINANCIAL MARKETS NEED REGULATION?

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**RESUMEN:** El autor presenta, en este artículo, un argumento en favor de la regulación apoyándolo sobre las características intrínsecas de los intermediarios financieros, en un ambiente marcado por la información asimétrica. Propone el argumento de que la regulación es necesaria aunque se trate de un “second-best” comparada con el ideal de mercados financieros perfectos. El argumento en favor de la regulación debe hacerse asimismo a la luz de los beneficios empíricos y de las limitaciones de dichas políticas, optimizando el cumplimiento de reglas racionales, claras y que minimicen las distorsiones creadas, tomando en consideración otros elementos de diseño e implementación que puedan afectar el resultado final en términos de *bienestar social*.

**ABSTRACT:** *Do Financial Markets Need Regulations?*

In this article, the arguments in favor of the need for regulation is justified by the function performed by Financial Intermediaries in an asymmetric information environment. The need of some forms of Regulation is proposed, even though the latter constitute a second-best compared with the ideal perfectly functioning financial markets. The case in favor of Regulation, then, has to be made in the light of the empirical benefits and limitations of such policies, optimising the enforcement of clear, rational and minimally-distorting rules, and taking into account other design and implementation issues that affect the final outcome in terms of Social Welfare.

## I. Introduction

In the last few years, the recurrence of periodic serious disturbances in the world financial markets has increased public awareness about the potential impact financial disturbances can have on real economy. The decade-long problems of the Japanese economy, the Crises in Asia, Mexico and Brazil, among others, have been at least partially caused by negative developments in Financial Markets, of which the Banking Sector constitutes an important part.

These crises have led to debate about the need and form of regulation that could be imposed to reduce the probability of occurrence of these severely negative events. In particular, this discussion has been carried out in a context where the old lines of division between FIs and Non-FIs have become in-

creasingly blurred, due to the process of disintermediation, deregulation and financial innovation that has been taking place since the late 70's.

In this essay, we support the view that the need for regulation & monitoring comes from the asset transformation function performed by Financial Intermediaries in an environment characterised by asymmetric information. In particular, asymmetric information is responsible for the existence of *contagion* among different Intermediaries.

We propose that some forms of Regulation are necessary, even though they constitute a second-best compared with the ideal perfectly functioning financial markets. We need to focus the analysis on the types of Regulation to employ, the benefits and limitations of such policies; and the best ways of enforcing these rules; always keeping in mind the dynamic framework of global competition, market

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volatility, institutional change and financial innovation where this need for Regulation & Monitoring arises.

Finally, the need for Regulation has to be accompanied by explicit efforts to improve market monitoring; such as an increase in the transparency of the operation of the industry, improving accounting standards, clear rules for the distribution of information in time & form, etc. This would allow us to combine the advantages of market monitoring with those of public one.

## II. The Need for Regulation

The need for regulation is directly related to the intermediating functions fulfilled by the Financial Sector.

The brokerage and information provision functions accomplished by Financial Intermediaries (FIs) do not intrinsically call for Regulations other than laws regarding the prevention of fraud and intermediaries misuse of information.

However, it is the asset transformation function of FIs that provides the strongest justification for the need for Regulation.

According to Freixas & Rochet (1997), there are three types of asset transformation: convenience of denomination, qualitative transformation and maturity transformation. FIs obtain funding from investors and then lend these resources to final borrowers, adapting the denomination (size) of the contracts to those demanded by its clients. Qualitative transformation occurs when the FI changes the characteristics of the financial claim issued by final borrowers (e.g., firms) by issuing a claim under its own name (e.g., deposits, a mutual fund share). Many times, qualitative transformation involves transforming the maturities of the assets held before selling them as liabilities; a process generally involving the issue of short term liabilities against long term assets. Some of these assets held by FIs are illiquid (e.g. bank loans in general) and *opaque* in the sense that they require the FI to perform another of its distinctive functions, **Monitoring**, in order to dynamically discover the true value of the asset.

A series of authors (Bryant, 1980; Chari & Jagannathan, 1988; Jacklin & Bhattacharya, 1988) have stated that runs against FIs result from the re-

ception by some claim-holders, a *private signal*, indicating a “low” return for the FI’s opaque asset portfolio. Since the signal is privately observed and the true value of the FIs portfolio is not observable, claim-holders can only observe the aggregate level of withdrawals against the FI (which is composed of people withdrawing because of real liquidity needs (like in Diamond and Dybvig 1983) and also by some informed depositors who have received a bad signal about the state of the FI’s solvency). If this aggregate withdrawal rate is large enough, uninformed claim-holders will choose to withdraw, believing that the large aggregate level of withdrawals is caused by informed depositors receiving a “bad” signal. Then, the run is the product of **asymmetric information**.

There is substantial empirical evidence (e.g. Gorton (1988); Mishkin (1991)) supporting the fact that FI crises are usually caused by a deterioration of fundamentals, like the downturn in the business cycle that follows a boom; and that adverse information about FI’s returns becomes a trigger mechanism for a crisis.

A financial panic always implies the existence of contagion among affected FIs. Contagion is caused by asymmetric information, because claim-holders subject to contagion are not able to distinguish between FI-specific developments and systematic phenomena (or the way in which systematic phenomena affect different FIs). There has been a lot of interest in the literature in the existence of international contagion; where problems in one emerging market have led to a crisis in another. For example, the crisis that hit Argentina after the Mexican devaluation of December 1994 (“the tequila effect”), has hinted that a crisis in one market can trigger a crisis in another market perceived by investors and financial institutions as being “similar”.

It is important to note that contagion can be a RATIONAL response of claim-holders to adverse information about the System. In the presence of asymmetric information, time constraints and limits in the capacity to process information (denominated bounded rationality in the literature), claim holders employ information about Financial Markets developments to *infer* the **true** state of their FI. Some authors have negated that individual FI failures are inherently contagious (Kaufman, 1986); but there is empirical evidence indicating the rational incorporation of adverse information about FIs in dis-

tress (or failing) into the value assessment of other FIs (Flannery, 1998; Calomiris and Gorton, 1991).

There exists a channel other than panic contagion through which individual problems in one FI can be transmitted to other FIs. FIs are interconnected through the Payments System, and an imperfect payments system leaves one party in a financial contract exposed to “settlement risk” (the risk that the other party would not settle the contract in specie in the contracted time and form). The chain failure of FIs connected via the Payments System was denominated “domino effect” by García (1996).

### **III. The Effects of Regulation**

Regulation implies designing the set of rules by which the Financial Sector shall abide; Supervision implies “...assessing FI condition and promptly implement disciplinary actions when they are required” (Flannery, 1998 pp 274).

There are many theoretical justifications for the existence of Regulation, but the most solid one is the existence of asymmetric information and the possibility that this could lead to externalities (like panics). The objectives of modern Regulation are generally accepted to be fostering financial system stability and protecting small claim-holders.

Regulation destined to enhance the Safety and Soundness of the Financial Sector includes several elements, like:

- Entry, branching, network and merger restrictions.
- Portfolio restrictions (including reserve requirements).
- Capital requirements.

Reserve requirements have traditionally been a first line of defence against demand for cash conversion of liabilities for depository institutions. However, in a dynamic framework, regulated reserve requirements can hamper efficient liquidity management on the part of the FI.

Capital requirements constitute one of the pillars of modern Banking regulation, together with mandatory disclosure policies. Capital requirements have been compared to imposing a tax that reduces the FI’s risk-taking on depositors. They have become, especially under the form of capital/asset ratios, the mainstay of Public Regulation in many

countries since the introduction of the Basle Agreement Rules in 1988.

In an environment without asymmetric information, risk taking by FIs can be shown to be optimal. However, in real world markets Governments have chosen to introduce *safety nets* with elements like Deposit Insurance schemes or Lender of Last Resort facilities, to protect the Banking System from runs and panics. This has brought moral hazard problems, creating risk-taking incentives for insured FIs and damaging claim-holders’ incentives to monitor FIs. In particular, the fact that DI can be compared with a put (or callable put) an option that increases in value for the insured stockholders the less capital they have, is a strong source of moral hazard in distress periods.

Moral hazard has always existed, but it has become a matter of real concern for policy-making only in the last two or three decades. As Cagan (1986) points out, after WWII industrial countries’ FIs enjoyed high charter values, due to lack of internal and external competition and little financial innovation; but when these conditions started to change in the 70’s and competition intensified (and interest rates rose as well), the moral hazard problem that had only been of academic interest before, suddenly became very important.

Regulation & Monitoring are believed to mitigate the moral hazard created by the operation of a FI safety net (Dewatripont & Tirole, 1993). In particular, capital requirements are widely believed to decrease the FI’s appetite for risk-taking, reducing moral hazard in the presence of Deposit Insurance. Bhattacharya et al (1998) mention the regulations that could be imposed for that purpose:

Risk-based Capital Requirements & Deposit Insurance Premiums

Partial Deposit Insurance & Market Discipline

Risk-based capital requirements are intended to align shareholders’ incentives with those of the regulatory Authorities. They impose a cost on the FI owners for increasing risk, allowing the regulator to influence the degree of risk in the FI’s portfolio. Risk-adjusted DI premia have a similar effect. However, the effectiveness of such an approach is based on the capacity of the Regulator to OBSERVE with satisfactory accuracy what the FI choices are and what effect this has in terms of

risk-taking. Also, the real relevance of risk-based DI premiums is doubtful: FDIC (2000) shows that there is only 27 basis points of difference between the highest and lowest-rated institutions; with an average assessment rate of 0.12 bp; and also 97.2% of the total assessment base (held by 94% of the total number of institutions) pays 0 basis points.

Partial DI constitutes an attempt to maintain some incentives for depositors to monitor FIs in the presence of Deposit Insurance. The assumption is that informed depositors are better monitors of the FI's activities than official Regulators; in which case it makes sense to remove some of the insurance they would have under a "blanket" DI scheme. This partial DI can assume the form of coinsurance up to a maximum of deposits, and different "haircuts" can be imposed on different types of claims. In most countries, "partial" DI means imposing a cap on the coverage of the Guarantee. Finally, partial DI can also be carried out by imposing differences in the priority assigned to different types of claim-holders in the event of a FI liquidation. The limitation of partial DI arises with depositors attempts to "parcel" deposits in fully-insured units (e.g. \$100,000); and it also depends on whether the Authorities **actually** allow uninsured depositors to suffer losses, as pointed out by Kareken (1986).

The utilisation of Regulation has to be carefully designed so as not to interfere with the constant search for efficiency and cost reduction carried out by financial intermediaries through financial innovation. Financial innovation actually constitutes one of the main reaction mechanisms of financial institutions in the face of artificial constraints or opportunities (Blake, 1996). In particular, the existence of distortive Regulations (especially branch restrictions) that severely impaired the capacity of US FIs to diversify their portfolios were an important causing factor behind several historical financial crises.

#### IV. The Role of Monitoring

Prudential Regulation will only be useful if it is enforced by an effective degree of Monitoring. This monitoring can be carried out by the Regulatory Agency or by the private agents like claim-holders; and both public and market monitoring have ad-

vantages and limitations that should not be overlooked.

Public monitoring has the following advantages over market monitoring:

a) Reduces duplication costs of individual monitoring of FIs.

b) It is not affected by private agents' "free riding" (that is, not engaging in costly monitoring because each agent assumes that others will monitor for her).

c) Has coercive power that allows monitors to extract private information the FI would not release otherwise.

This third advantage of public monitoring is maybe the most solid justification for strengthening the monitoring capabilities of the Regulatory Agency (or a similar body). Detecting fraudulent behaviour by FI insiders sometimes represent a larger problem than just monitoring FI risk; and fraud should not be underestimated as a cause of FI failure. Both the academic literature (Kaufman, 1986; Calomiris & Kahn, 1991; Mayer, 1986) and the recent collapse of Baring Brother's due to insider trading and fraud provide abundant evidence supporting the significance of fraud as a major cause of FI failure.

As a limitation, a first one would be that even with coercive powers to extract private information, in the absence of clear accounting rules and other rules fostering transparency, it is very difficult for the public monitor to extract accurate information in time & form. This calls for an increase in the efforts to improve information standards. Additionally, public monitoring allegedly becomes more accurate with the introduction of Market Value Accounting; for this would reflect more clearly the true market value of the FI's assets. However, making FIs mark their assets to market is only partially feasible, due to the absence of markets for many of the FI's assets, in particular those for which asymmetric informational problems are particularly acute (e.g., loans to Small firms). However, attempts at pricing to market at least those assets for which *there are* market prices enhance transparency and facilitate the assessment of the true state of the FI's Balance Sheet.

Another limitation of official monitoring is that trying to determine the value of the state of the FI's portfolio is often slow, which leads to delays in the imposi-

tion of corrective measures or closure. This delays in recognising the problem and taking corrective measures are labelled “Recognition Lag” and “Action Lag” respectively by Flannery (1998).

Public monitoring is closely related to Enforcement of Regulations. Together with the capacity to remove the FI’s management or to impose pecuniary (money) and non-pecuniary penalties to the FI, the ultimate penalty for failure to comply with Regulation is the closure of the FI.

The optimal closing down policy for the Regulator has been argued to be: a) Close down the FI when the net increase in the insurer’s discounted liability exceeds the immediate cost of reorganising the FI, or b) close it down when the FI’s current asset value is too low for the insurer to be able to charge an actuarially fair premium.

Prompt closure of the FI when the entity becomes insolvent a) prevents larger resolution costs later on, b) reduces FIs’ (managers’ and stockholders’) moral hazard.

However, many times delay in closure comes from forbearance, when Regulators consciously allow the insolvent FI to continue to operate or they even provide liquidity through the Lender of Last Resort to keep it afloat. A first reason behind this is that Regulators can’t really determine with certainty whether the FI is solvent or not in the middle of a distress period, so they keep them open hoping that they will return to solvency when the crisis is over. This seems to have been the reason behind the change in accounting procedures, relaxation of regulation and liquidity provision to the Savings & Loans Industry in the US during the early eighties, a policy that ended in the disastrous collapse of the whole sector. Another reason is that the Regulators may have private incentives (as individuals) to conduct forbearance; for example, to maintain a reputation that “no crisis occurred during their watch” (Boot & Thakor, 1993); or because their incentives are aligned with those of the FIs’ stockholders, for whom they expect to work when they quit the Regulatory. This problems call for a drastic reduction of Regulator’s discretion in the application of closure rules.

The problems implied by reliance on public monitoring have called for more reliance on market monitoring. In particular, several authors (Kareken,

1986; Kaufman, 1986; Mayer, 1986) have proposed that FIs should be made to issue subordinated debt to stimulate FIs’ creditors to monitor FIs’ behaviour, and to provide the market with signals about the risk of individual FIs. Especially, market monitoring does not suffer from the clash between individual and institutional incentives to exercise forbearance. However, private generation of information suffers from free-riding problems and can be very costly for many (mainly small) agents.

## **V. Conclusion**

We have proposed that Instability in the Financial Sector of the economy stems from the asset transformation function of FIs, and especially from the opaque characteristics of assets that prevent claim-holders from knowing what is the true value of the asset portfolios.

Regulation can solve many of the problems caused by asymmetric information and by the Authorities’ response to it by introducing a safety net for some kinds of FIs. The reduction in moral hazard that adequate regulation produces, however, must be complemented by transparency-enhancing policies aimed at improving the ability of market monitors to assess the true state of FIs portfolios. This would help to achieve the optimal balance between the advantages of market monitoring (better incentives, forward looking nature of monitoring) with those of public one (absence of free-riding, ability to demand the release of private information, reduction in duplication of monitoring costs).

In the last two decades, the capacity of FIs to repackage and sell several kinds of homogeneous assets (like house mortgages, consumer receivables, etc) has led to substantial reductions in asymmetric information problems in financial markets. However, the feasibility of securitization in the foreseeable future seems to be restricted only to a portion of FIs’ balance sheets (mainly homogeneous assets for which exists a secondary market), ensuring the need for the FI’s role as a low cost monitor of opaque assets and, with it, the survival of public Regulation & Monitoring in the near future.

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