Financial regulation

Regulation in the financial sector

The regulatory system is being accused of having failed to mitigate the recent cycle in leverage, credit expansion and housing prices. In effect, regulation provided little or no check and barrier to the decisions taken by banks and other financial operators aiming at profit maximisation. The paper questions if the basic objectives of financial regulation are well structured and what can be done to restructure regulation. They state that regulation has three main objectives:

1. Constrain the use of monopoly power, prevent serious competition distortions and maintain market integrity.
2. Protect essential needs of ordinary people when information is hard or costly to obtain and mistakes could devestate welfare.
3. Prevent externalities where the social, and overall, costs of market failure exceed both the private costs of failure and the extra costs of regulation.

In the financial sector, one of the biggest problems is negative externatilities in case of a bank failure. Five reasons for such negative externalities are:

- Informational contagion: The failing of one bank, leads to more doubt about the continued solvency of another comparable bank
- A loss of access to future funding for the failed bank’s customers: In case one bank fails, another bank that takes on these new clients doesn’t have as much information as the failed bank about the client.
- Banks trade a lot amongst themselves which lead to negative externalities in case of failures.

- Liquidity problems often lead to solvency problems because of fire sales (a bank’s assets are perceived of having declining value). Such fire sales drive down the price of the same assets held by other banks. This actually leads to an amplifiying process (liquidity spirals) which we’ll discuss later.
- A bank may restrict new credit extension in order to regain liquidity and improve capital ratios. Whis can be done by raising interest rates or other costs to borrowers which raises the probability of default for all other borrowers.

The first claim of this paper is that regulation has been too focussed on seeking to improve the behaviour and risk management practices of individual banks, too micro-prudential. On the other side, it has been far too little focussed on wider systemic issues, insufficiently macro-prudential. To illustrate this we can take a at the following: Banks reasoned that they would have acces to the wholesale money market in normal times. However, banks that did not make this assumption had a competitive disadvantage. At a micro-level this was not viewed as increasing risk, but reducing it (by providing alternative and more flexible sources of funding). But the exploitation of market access by almost all banks in normal times, increased the likelihood of disaster in abnormal times.

One reason why regulators paid little attention to liquidity problems was from a belief that if a bank had adequate capital, then it could always raise extra funding on wholesale markets. Regulatory capital however, is meant to be held against unexpected loss, and not expected loss. Based on this, there should be a higher interest rate spread. To protect the financial systems

against a failure of the wholesale financial markets and, thus, illiquidity there should be one of four possible sources of protection: 1. Banks an other financial institutions themselves 2. Private insurance 3. The Central Bank and 4. Public insurance.

Nature of Systemic Risk

We will now discuss how liquidity problems can lead to solvency problems and how relatively small shocks can cause liquidity suddenly to dry up , carrying the potential for a full-blown financial crisis.

Solvency, Liquidity and Maturity Mismatch

In normal times, when financial markets are strong, it is fairly easy to identify insolvent financial firms. However, at times of crisis, it is difficult since solvency becomes so co-mingled with liquidity issues. Prices of assets are no longer tied to expected cash flows and, instead, reflect the liquidity price. (the value of the asset if it has to be sold tomorrow at fire sale prices)

financial institutions typically have an asset-liability maturity mismatch and hence are exposed to funding liquidity risk. A funding shortage arises when there is low funding liquidity (when it is expensive to borrow more funds) and low market liquidity (when it is expensive to sell off assets).

Funding liquidity risk is due to maturity mismatches and can thus take three forms.

- margin/haircut funding risk, or the risk that margins and haircuts will change. (the haircut is the difference between the current market price of a security and the price at which it is sold)

- rollover risk, or the risk that it will be more costly or impossible to roll over short-term borrowing
- redemption risk, or the risk that demand depositors of banks or even equity holders withdraw funds.

All three forms of funding liquidity risk are only significantly harmfull when market liquidity is low.

While this seems reasonable from an individual bank’s perspective, it is clear that the level of market and funding liquidity is not exogenously given but determined in the economy as a whole. As a result, important adverse feedback effects might arise.

This requires a more systemic view of liquidity crises

Loss Spiral . Asset Price Effect

The domino model of contagion is flawed, and is not useful for understanding financial contagion in a modern, market-based financial system. The key is to follow the reactions of the financial institutions themselves to price changes, and to shifts in the measured risks.

Defaults need not even be necessary to generate contagion. Price changes themselves may be enough. When financial institutions mark their balance sheets to market, changes in prices lead to losses that may be sufficient to transmit the shocks to other institutions even when they do not hold claims against each other. Losses worsen funding liquidity for many financial institutions, forcing them to shed even more assets which further depresses prices and increases losses, and so on. The loss spiral leads to sharp asset price movements

especially at times of financial crisis.

Margin/Haircut Spiral

The margin/haircut spiral reinforces the loss spiral since it forces the financial institution to reduce its leverage ratio on top of it. Margins and haircuts implicitly determine the maximum leverage a financial institution can adopt. Margins/haircuts spike in times of large price drops and thereby lead to a general tightening of lending.

As asset prices drop, risk measures (like Value-at-Risk) increase, which not only lead to higher margins and external funding costs, but also reduce risk-appetite within banks. Risk managers force traders within a bank to de-lever their positions. Leverage is procyclical. When many market participants de-lever in stressed environments, liquidity rapidly decreases.

The self amplifiyng dynamics are seen by brunnermeier et al as the predominant cause of the financial crisis. In other words, this financial crisis is caused by market dynamics and not just by external shocks.

When liquidity dries up, it disappears altogether rather than being re-allocated elsewhere. When haircuts rise, all balance sheets shrink. Thus, there is a generalized decline in the willingness to lend. When a bank finds itself at the receiving end of a run by its creditors, it cannot simply turn to another creditor to take up the slack, since all other creditors are simultaneously decreasing their lending. In this sense, liquidity should be understood in terms of the growth of balance sheets (i. e. as a flow), rather than as a stock.

Micro- vs. Macro-prudential

The objective of micro-prudential measures is to keep the individual institution behaving prudently, while that of the macro-prudential measure is to safeguard the financial system as a whole.

Regulation

The paper argues that the classification of financial institutions should be based on objective risk measures that capture the risk-spillovers from one institution to the next.

The risk-spillover of a financial player can be high if it 1) causes financial difficulties at other institutions or it is 2) simply correlated with financial difficulties amongst other financial institutions. A good risk-spillover should give the distinctions to group financial institutions into 4 groups:

1. Individually systemic.

This applies to large banks that are actually to big to fail. It would cause big problems is any of these banks got in trouble. This means that micro-prudential regulation remains very important. More attention should also be given to systemic diversification because this can cause systemic spill-over risk. Rules should also be designed in such a way that banks have no incentive to move assets into off-balance sheet vehicles. They require macro-prudential regulation and also micro-prudential regulation due to their size.

2. Systemic as part of a Herd.

These may be sufficiently small, and insignificant, for their individual condition

not to be of great concern to the authorities, particularly when this is driven primarily

by idiosyncratic factors, but when they move together as part of a larger

group, their correlated fluctuations may well be systemic. Hence, they require

some macro-prudential regulation but very limited micro-prudential regulation.

3. Non-systemic large and not highly levered (e. g., Insurance Companies and

Pension funds). These institutions need full micro-prudential regulation, but no additional

macro-prudential regulation.

4. Tinies, especially if they are unlevered, should have minimal conduct of business regulations.

The risk-spillover measure should determine whether a firm needs macro-prudential regulation (group 1 and 2) or not (group 3 and 4) and influence the extent of the capital and liquidity charges.

A riskspillover measure would calculate the aggregate bank portfolio in the country, and then compute how much the individual banks' portfolios

correlate with the aggregate. The higher such correlation, the less diversified the system.

The point is that the micro-prudential regulations are not sufficient by themselves. They need to be supplemented by macro-prudential controls.

Brunnermeier et al would also encourage a more European approach within the Euro area. If burden sharing could be agreed upon within Euroland, regulation could be transferred

to a European institution.