Chapter 7

Underestimating Risk and Developing the Capacity to Hold It

"Effective macro-prudential regulation lies in the appropriate allocation of risk: in particular, the matching between different types of risk and the capacity to hold those risks"

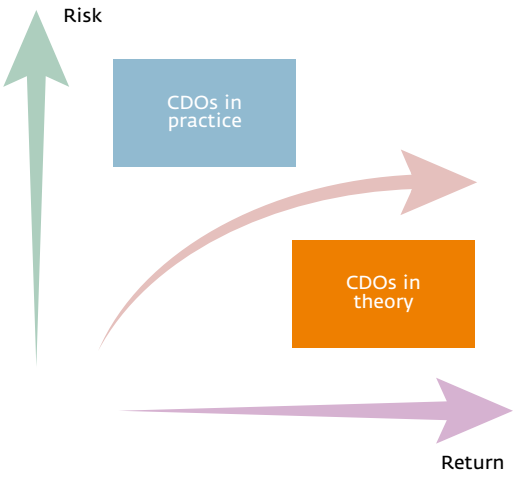
The loss figures cited for this crisis are in the trillions of dollars – so large as to be unfathomable to ordinary citizens. Financial markets and financial institutions had grown so large as to become too big to bail with governments being forced to come up with ingenuous ways of providing support, transferring to the public sector not just actual losses but even more enormous risks. Macro-prudential regulation concerns itself with a dangerous and generally unacknowledged fallacy of composition. That is, the financial system is not made safe simply by making individual firms safe. This is because risk is not just exogenous but also endogenous to the financial system. A critical source of endogenous risk is the credit cycle, which we have discussed extensively in Chapters 2 and 3. But it is not the only source. Another source lies in the current regulatory system's focus and approach on 'risk-sensitivity'. Regulation tried to measure and control risk through banks' internal risk models that assume risk to be a quantifiable property of an asset, and through related capital adequacy requirements that assume such measured risk to be a function of each individual bank's sum resources. This is one part of the fallacy of composition problem. While it is individually rational for any single bank to calculate its 'value-at-risk' or similar measure at the end of the day, it is not so for the system as a whole. These models of exogenous risk assume that financial players act independently of each other and in essence assume that only a small number of people are using the risk models that the regulators have asked everyone to use.

In an interlinked and pro-cyclical system model homogeneity can be collectively disastrous. The use of common models leads to common positions across disparate portfolios in terms of hedges and risks. So while one bank may appear diversified, in the context of other banks having similar positions, the system and the bank will be exposed to far greater shocks that the risk models would indicate at the time and the model 'surprise' will lead to a greater reaction that will be further compounded by the collective behaviour.

Given this inability to both fully capture and measure endogenous risk in the financial system that arises from collective behaviour, we feel that a further and related, but equally neglected component of macro-prudential regulation lies in the appropriate allocation of risk: in particular, the matching between different types of risk and the capacity to hold those risks.

Imagine two financial systems, each with the same amount of risk, but in the former risks were matched to holders with a capacity for that risk while in the latter risk was evenly spread across all holders without regard to the type of risk or capacity of the holder for that risk. The former system would be safer since the risk of a system is not just the amount of risk there is, but how that risk is absorbed. And if we consider allocation of risk to be about behaviour, this comes back to our earlier observation that, today, in a world of common information, risk is more inherent in behaviour and less inherent in instruments than commonly perceived.

Fig 2: The False Dichotomy of the Level Playing Field for Risk and Return



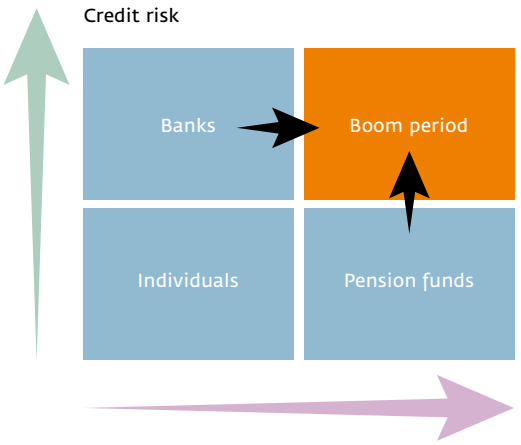
The figure above presents the false dichotomy of a level playing field where all activity can be collapsed into risk and return. Within the figure collateralised debt obligations were considered within markets to be a financial instrument with high returns and low risk. This satisfied the need of many financial institutions whose clients demanded this combination. Pension funds were one particular institution that invested in CDOs on the basis that they were required to invest in high performing assets that also had high credit ratings. As we now know, the collective use of the same valuation and risk rules meant that exogenous measures of risk underestimated the degree of endogenously created risk by investors and pensions funds buying and selling these instruments at the same time. This was compounded by pension funds and insurance companies outsourcing their investment to firms that could not hold liquidity risk, because of their short-term funding and use of market prices to measure risk and return. As liquidity risk increased, investment management firms were forced to sell these illiquid instruments, leading to a collapse in prices which gave the impression that their credit risk had worsened forcing the investors to sell more.

This whole episode reveals how risks were amplified many times over by the 'wrong' people holding the 'wrong' assets and suggests that if these illiquid assets were held by investors with long-term liabilities or funding, who held on to them as market prices fell, and considered buying those that looked cheap, the same genuine decline in credit quality in certain market sectors would not have led to the collapse of the entire market. As we have said before, the systemic problem is not so much that there were many sellers, but that there were no buyers. And there were no buyers not because no one saw value, but few had the capacity to buy illiquid assets and those that did followed standardised, market-sensitive, value and risk rules that did not allow them to hold the one risk they had a superior capacity to hold. It is interesting to note that the only buyer of these assets was the one buyer who did not have to apply the standardised value and risk rules trumpeted by regulators and accountants: the Government.

Segmentation Beyond Glass-Steagall

Segmentation by form and function today is a different kind of segmentation than we saw under the U.S. Glass-Steagall Act, and that many commentators seek to restore today. Although superficially appealing, the problem with focusing on institutions as the locus of regulation is that it encouraged flux in form and function. Banks began behaving like investment banks and hedge funds and insurers (AIG) began behaving like banks. Modern finance is fluid and our ability to put institutions into boxes and regulate accordingly is limited at best. We need to segment markets again, but we need to recalibrate the segmentation along very different lines to the past to deal with a fluid financial system.

Fig 3: Unlevel Playing Fields for Credit and Liquidity Risk



Such an approach would switch the locus of regulation away from institutions and instruments towards behaviour. Risky behaviour is where the underlying risk attached to an activity is unmatched by the capacity of those holding that underlying risk to do so. Inherent in this focus is the idea that instruments can have different risks depending on what they are being used to do and who is using them. A portfolio of commercial properties that cannot easily be sold, but where there are high quality tenants consistently paying a good yield, is a low risk instrument for a long-term pension fund that has time to find a buyer for the portfolio, but is a high risk instrument for somehow who needs immediate cash.

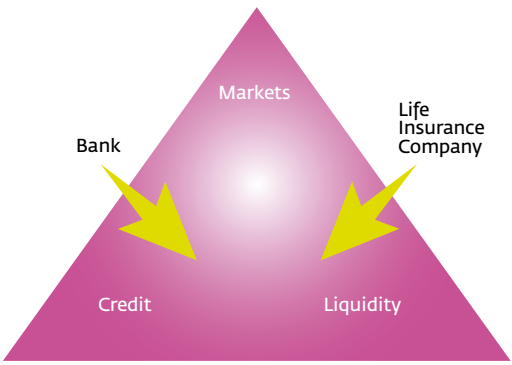
This is the reality of risk. It is a reality that runs counter to the current notion of level playing fields in the regulation of finance and the supporting notion of certain specific instruments being risky per se. The idea of risk being singular (there are not different risks or that the same instrument does not pose different risks to different holders) underpins the notion of the 'level playing field', and that there needs to be one set of rules common to all institutions and convergence across countries whether in norms of capital adequacy, risk modelling, or accountancy best practices.

The figure above depicts this scenario. Banks and pension funds were in the top right quadrant and should be, respectively, in the top left and bottom right. Including liquidity risk in addition to credit risk helps us see why the management of different kinds of risks, is not helped by the levelling of all playing fields.

Different Risks and Different Capacities

At base then, the problem with conceiving of risk as a single divisible property of an asset is that it crucially ignores how it is funded and who is holding it. There are three different types of risks that banks and other financial institutions actually face. Those are Market risk (the risk that market movements in general alter one's positions), Liquidity risk (the risk that assets held may have to be sold at a heavy discount), and Credit risk (the risk that counterparties will be unable to meet obligations). These are depicted in Figure 4.

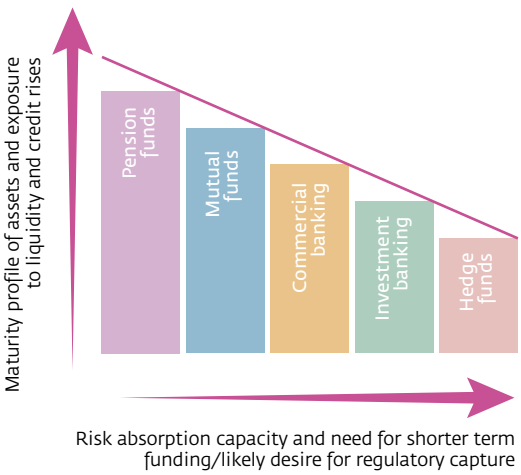
Fig 4: Locating Risks in Financial Systems



In this ternary plot, the sum of credit, liquidity, and market risks is 100 percent of the activity in a given financial system. The weightings of credit, market, and liquidity risks depend on the institution and the market. For example, Institution A faces acute credit risk while less liquidity and market risk, while Institution B faces significant liquidity and market risks while less credit risk. Figure 5 provides a conceptual frame for considering how different institutions vary in their risks and why they operate in an unlevel playing field.

One of the micro-level keys to developing an unlevel playing field is to create regulatory incentives so that risks are held in places and by institutions best suited to hold them.

Fig 5: The Unlevel Playing Field for Risk Allocation



In the figure the Y-axis combines the maturity profile of assets with their exposure to liquidity and credit risk as per the table above. The desire should be to attempt to match assets with liability maturities and risk exposure with risk absorption capacity.

The X-axis combines the ability to hold risk according to funding source with desire for regulatory capture. That is, risk absorption capacity reduces when liabilities are short term and are able to be withdrawn. Such institutions will not want to be regulated in terms of the sorts of assets that they can hold. Moreover, if left to their own devices, banks and other risk-traders will rely on short term funding in order to minimise costs. Hence, desire for regulatory capture will be an inverse function of risk absorption capacity since institutions are making returns on the basis of taking high levels of risk.

Rather than one set of regulations and requirements that lock in major player advantages and create 'too big to fail' dynamics, the role of regulation becomes to shape the financial system such that risk ends up where it can best be held at the same time as being financed appropriately when it is traded; the two critical functions of any financial system. Rather than encourage the maturity mismatches, as do current micro-prudential regulations, this approach segments risk without segmenting institutions by focusing on how risk and funding interact on the micro level to produce problems on the macro level. Unlevel playing fields for finance will still allow risk-taking and its financing, but will do so in a way that aids in 'leaning against the upswing' by eliminating potential endogenous and systemic risks before they arise via the proper matching of risk, liabilities and funding.