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On Systemic Risk at Bank Level

Summary: Systemic Risk is an infinite sphere, whose centre is everywhere and whose circumference is nowhere. For regulators, systemic risk is about the stability of the financial system as a whole. Banks, in their turn, should be concerned about their own ability to weather the storm. They should understand their own *exposure* to systemic risk and make sure it is within their risk appetite. Note that the usual tools of CRM, MRM and ORM have no bearing on systemic risk. For that, we need to study the bank's vulnerability to the financial system, i.e., its external dependencies and its internal resilience. We provide examples and a complimentary logo to remind the executive management and the board of their responsibility in this respect.

Dear reader,
Systemic Risk[1] ("SR") is about avoiding financial instability and minimising contagion effects to the real economy. It is now firmly on the regulators' agenda, courtesy of the 2007 financial crisis and its aftermath. SR *management* is, however, an oxymoron. The heroic remedies contained in Basel III and the Dodd-Frank Act are testament to the kill-or-cure nature of the attempt at managing the unmanageable. It has even been argued that Basel III misses the point[2] since, ultimately, SR is not about any single institution but about stability in the financial system as a whole[3]. This is the challenge for regulators.

For banks, however, it is a different story. Banks cannot manage SR per se, but they can manage their own *exposure* to SR. This exposure can be made explicit and, ideally, brought within the bank´s risk appetite. Conventional risk measures are, however, not suitable to capture SR. The main reason for that is that they rely on a modicum of financial stability, which is the very thing that is missing in SR scenarios. Taking a step back, we can start by examining the bank's vulnerabilities to extreme shocks in the financial system. In the end, exposure to SR is determined by the internal capability to adapt to worsening circumstances. External vulnerability can be examined by assessing the bank's *dependencies*. Internal adaptability is a matter of preparedness to shift gears if the signs of SR move beyond the risk appetite.

External Vulnerabilities
The financial world is highly interconnected and ultimately cannot be directed by any bank. But that does not mean banks are unable to manage their external vulnerabilities. They select what kind of bank they want to be, what kind of markets they want to be in, how to fund themselves, which clients to service, which geographies to operate in and how much leverage to take on. Each of

[1] GRAS has written about SR in two previous newsletters, both from 2009, namely 7: *Systemic Risk and Uncertainty* and 16: *Systemic Risk: A Second Chance for ERM.* Both may be downloaded from the GRAS website, URL: www.GlobalRAS.com/publications
[2] Basel III was designed to reign in so-called Systemically Important Financial Institutions (SIFIs).
[3] This is poignantly stated by Paul Volcker, quoted on page 286 of *Confidence Men,* by Ron Suskind [2011]. "I do not believe in focusing systemic risk on the safety of specific institutions. You focus your energy on developments in the marketplace that *carry* systemic risks, developments that cut across institutions and particular markets. The whole use of financial engineering is a systemic risk…". Italics in the original.

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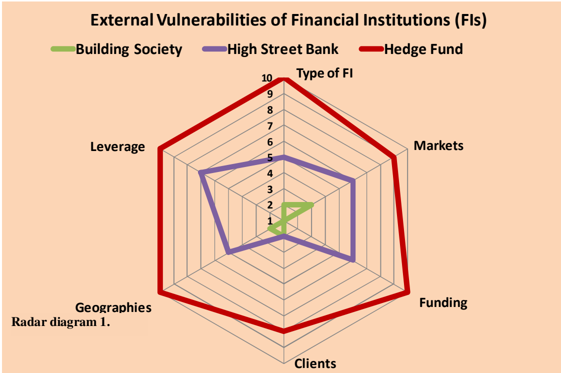
these choices influence a bank's dependency on the wider financial system - and it is up to the bank to select, to some degree at least, how much vulnerability to SR risk they take on.

Here is an example of the six main dimensions that contribute to the level of dependency on the financial system. As extremes, we take a traditional mortgage lender (a building society), and a hedge fund, with High Street Banks as a mid-point. Each dimension ranges from 1, the lowest external vulnerability, to 10 the maximum score. A hedge fund, given the nature of their business will be more vulnerable to SR than high street banks or building societies across all dimensions. Note that FIs become more susceptible to SR if they operate in volatile markets, rely on short term funding with high degrees of leverage and are highly leveraged, all of which are sources of contagion. Note that fewer clients can potentially insulate an FI from SR, but becomes a fatal trap of the client itself is affected. This can be compounded by unacceptable levels of wrong-way risk[4] leading to further contagion.

External Vulnerability Score

	Lowest	Highest	Building Society	High Street Bank	Hedge Fund
Type of FI	Building Society	Hedge Fund	2	5	10
Markets	Stable	Volatile	3	6	9
Funding	Long term	Short term	1	6	10
Clients	Many	Few	2	2	8
Geographies	Concentrated	Dispersed	2	5	10
Leverage	None	High	1	7	10



Radar diagram 1.

Internal adaptability

A bank's internal vulnerability to SR depends on how well it can adapt in adverse conditions. But like a sorcerer´s apprentice[5], FIs were too addicted to their funding habits, leverage, client base, etc., to consider their exposure to SR until it was too late. Staying on top of their exposure to SR is not the hard part, it basically requires a refinement of Radar diagram1, and offsetting that with the risk appetite. The link to risk appetite elevates SR to a board responsibility, which is appropriate. If only because managing that exposure down in tantamount to making strategic long term choices that determine the character of the institution.

Conclusion

Boards would do well to understand their vulnerability to SR. They can do so by first of all assessing their external vulnerabilities. A second step, however, must be to offset that vulnerability to the risk appetite and the internal adaptability. Vulnerabilities can emerge from any direction at any time. Hence, it a permanent task for the executive management and board. We suggest they adopt this logo to remind them of the uncertain nature of SR and their collective responsibility with respect to their SR exposure. As a start, they should incorporate the outcome of the vulnerability assessment to the risk appetite statement and stamp it with this logo.

[4] Wrong-way risk occurs when exposure to a counterparty is negatively correlated with the counterparty´s credit quality. This implies that the counterparty actually holds the bank hostage which makes the bank more vulnerable to systemic risk.

[5] In the words of Goethe: *Die ich rief, die Geister /werd' ich nun nicht los* (The spirits that I summoned/I cannot dispel)