
Editorial: The importance of risk management and its potential blind spots

Whether a stream of cash flows from a retail or commercial loan, an equity investment or bond, the value of receiving those cash flows in today's currency is an aggregation of all expected future cash flows, discounted by some measure of alternative returns and perceived risk. Risk management influences the value of any asset that generates cash flows in multiple ways and its optimal execution can generate substantial additional present value. Optimality, though, is an elusive level of practice, further challenged by an inability to recognise what constitutes optimality and the blind spots that threaten to undermine any preconceived notions of how optimality is best pursued.

The aim of this special issue of the Journal, dedicated to 'the blind spots of risk management', is not to suggest that the practice of financial risk management has failed, or even that it is badly broken. Rather, the call to authors contributing to this special issue is to highlight areas in which our attention, additionally directed, might improve the work of the risk management profession. Even if current risk management practices are far from 'optimality', great strides have been made in recent decades and continue today. Risk management is valuable as it exists. Hence, any improvement will make risk management even more valuable to those who are served by its

practitioners.

To illustrate how risk management adds value, consider the following equation for the valuation of a stream of cash flows:

$$V_0 = \sum_{i=0 \dots n} \left(\frac{C_i}{(1 + r_i + p_i)^i} \right)$$

where V_0 is the present-day value of a set of cash flows (C_i) over n periods, discounted by the risk-free rate (r_i) plus some risk premium (p_i) in each period. In this formula, the discount rate varies by period, both based on the risk-free rate to that period as well as a risk premium that can change over time.

If C_i represents cash flows to the owners of a company, then risk management, not unlike an accounting or audit function, is a cost that reduces the C_i to the owners. However, risk management also enables the more efficient allocation of scarce resources like capital, and improves how a firm makes decisions by better informing its assessment of whether economic value is created by a particular business choice or a portfolio of decisions. Risk management in these regards has a positive impact on C_i . In fact, the positive impact on C_i may overwhelm the negative cost of risk measurement, management and transfer on the same. Yet, it is not necessary that it does so for risk management to be a value-adding pursuit.

Risk management's most productive value creation comes from its impact on p_i . These risk premia are a function of the perceived threat to C_i by the recipients of the cash flows. With all businesses there is some risk that C_1 or C_2 or C_{20} , for example, will fail to meet present expectations, or that, *à la* Bear Stearns, Barings Bank and so many others, n may never reach the expected number of periods. So, the owners of a risky cash flow ask for compensation of potential disappointment via discounting of the uncertain cash flows. To the extent that risk management reduces p_i , the value of the cash flows must increase.

Breaking down the discounting for risk one step further, the p_i values are comprised of both an estimate of the expected risk, or variability of C_i , as well as the 'model risk' of those expectations. The latter can be influenced by a number of factors, some internal and some external to the firm. As an example of the potential for external influences, evidence from behavioural finance suggests that the discounting of C_i may be disproportionately affected by an investor's perceived risk of large losses in value. Loss aversion describes the evidence that, in the human valuation mindset, negative sentiment ascribed to possible large losses greatly outweighs the positive sentiment ascribed to possible gains.¹

Our profession is generally quite good at managing the risk of relatively small changes in value, whether it be changes in interest rates, foreign exchange rates, equity prices or rates of production. We also expend substantial quantitative resources on models to determine the levels of capital required by products, business lines or business conglomerates

to attain a desired external credit rating or to meet regulatory requirements. Nonetheless, one of modern risk management's greatest blind spots stems from a failure to focus enough resources on understanding how organisations move from a point of relative equilibrium (the middle of the distribution) to a point of disintegration (the loss tail of the distribution).

In his book 'The Tipping Point: How Little Things Make a Big Difference', Malcolm Gladwell talks about how different trends, diseases, etc can reach a critical point whereby their growth becomes exponential and self-reinforcing.² We should be equally concerned about reaching a tipping point in the negative perceptions of liquidity providers and regulators, for example, that could effectively or actually force the cessation of business well before losses in excess of the firm's capital have been realised. A firm's ability to respond to major risk events without breaking is called *ductility*. Its ability to regain its shape following large losses is called *resilience*. The extent to which a company is perceived to be both ductile and resilient will reduce its p_i as the risk of catastrophic loss is reduced (Figure 1). The impact on p_i due to the addition or improvement of risk management can be quite large, especially if there is a change in state from the belief that catastrophic failure is a possibility to one where such a belief is a near impossibility.

Within the physical risk space, Kaspersen *et al.* have developed the Social Amplification of Risk Framework (SARF), which explains one possible source of such tipping. SARF describes the factors that contribute to the amplification of loss from risk events

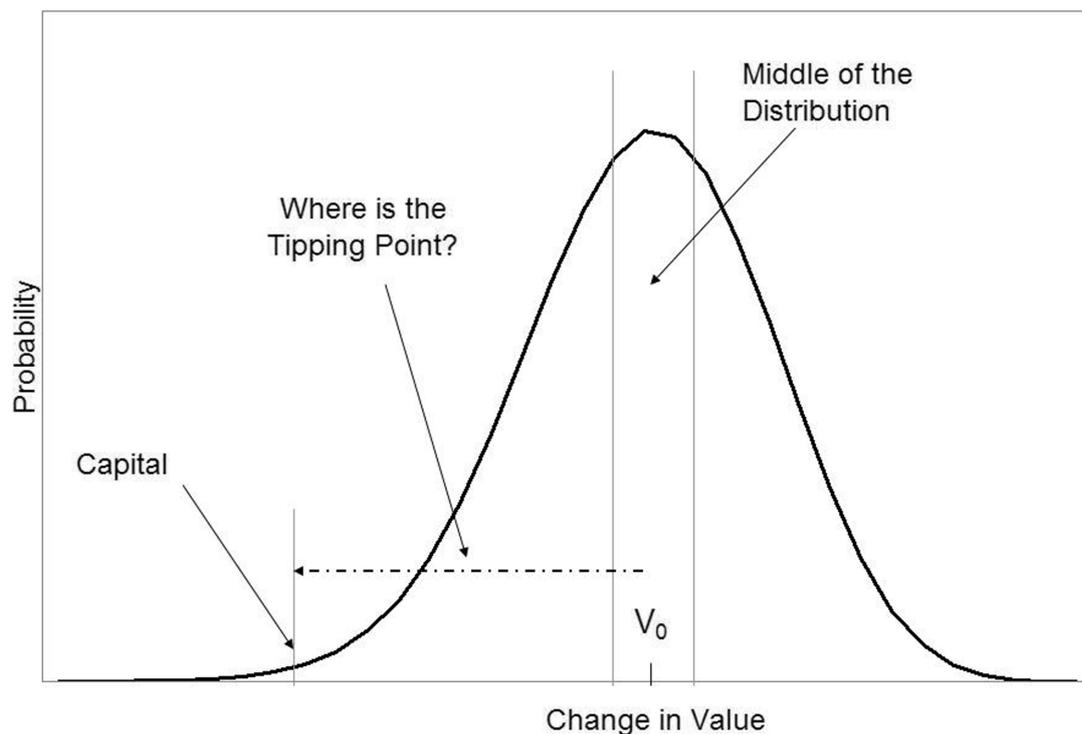


Figure 1: Change in value — Tipping point chart

that happen over time through social factors.³ The recent subprime crisis is an excellent example of how factors such as dread and the lack of public knowledge or understanding contribute to losses many times larger than the initial losses triggering the public reaction.^{4,5} The realisation of a social amplification of risk requires both an external lack of understanding of the risk as well as a fear of its broad impact or an inability of those who are expert in the field to control such an impact.

If the amplification of losses is likely to affect one firm more than another, then the p_i values for that firm should be higher and their spread to the less affected firm should widen with each discounting period as the risk of model error increases for periods farther into the future. Likewise, if a firm is perceived as having lax risk management controls, there is greater model risk to

the forecast C_i values and thus higher p_i values are warranted. The effect of better risk management is thus to provide a competitive advantage over firms with less robust risk management frameworks and to effectively extend the life over which the C_i values are discounted.

One antidote to social amplification is found via enhanced transparency. Long a buzzword in risk management, it has gained a new foothold in management theory. Management consultants Bennis *et al.* focus on this in their book ‘Transparency: How Leaders Create a Culture of Candor’.⁶ They note that experiments in decision making yielded better outcomes when information was shared widely during complex decision-making activities. So, by these assessments, transparency should positively affect both C_i and p_i , adding value. Yet, true transparency still seems

to be viewed with scepticism by many businesses. Unfortunately, the ability of financial risk managers to communicate with and educate those who might actuate better transparency or those whose actions might amplify the risk that affects the C_i values is yet another blind spot.

In the physical risk space, the understanding of the importance of how to communicate risk has been developed much further than in financial risk management.⁷ A recent survey of senior financial risk executives identifies some of the following factors that indicate financial risk management's focus on communication skills is greatly lacking. Only 7 per cent of respondents in this study said that they made use of a 'communications expert' when corresponding with their board of directors and less than 35 per cent reported using such experts when communicating about risk with 'the public'.⁸ Additionally, despite ample evidence from the study of behavioural finance suggesting that decisions will vary based on how the choices are presented (framing), sometimes to the point of irrationality, more than 75 per cent of respondents reported that their risk teams had not received any kind of 'training in the communication of risk (heuristics, framing, etc)'.⁸

The impact of these perception issues is not limited to board members, liquidity providers, regulators or the providers of capital. These issues are also relevant to suppliers, customers and others in the stakeholder chain of any system or corporation. Dipak Jain, Dean of the Kellogg School of Management at Northwestern University, once suggested that risk managers were failing to be involved in the management of the

most important risk that any company faces: the risk that the company does not understand its customers' needs.⁹ Does any chief risk officer, responsible for the risks of the enterprise, count the customer as one of the risks they manage or oversee? If not, this is an additional blind spot.

Risk perceptions, ductility and resilience are concepts that are a bit too nebulous for many risk managers. They are quite difficult to quantify. Yet, as noted in the psychological literature, it is very natural for humans to want to quantify things that may not be quantifiable. In this regard, an over-reliance on metrics and models creates a risk of false perception regarding the controllability of risk and the accuracy of risk estimates. In his under-read essay, 'The risk management of everything', Michael Power critically states:

'Risk talk and risk management practices, rather like auditing in the 1990s, embody the fundamentally contradictory nature of organizational and political life. On the one hand there is a functional and political need to maintain myths of control and manageability, because this is what various interested constituencies and stakeholders seem to demand. Risks must be made auditable and governable. On the other hand, there is a consistent stream of failures, scandals and disasters which challenge and threaten organisations, suggesting a world which is out of control and where failure may be endemic, and in which the organisational interdependencies are so intricate that no single locus of control has a grasp of them.'¹⁰

Risk managers would be well-served to understand why Turnbull is so emphatic

that better management of risks in complex systems is realised through distributive governance.¹¹ The science of complexity offers numerous insights that challenge current methods of measuring risk and managing human behaviour.¹² Understanding how complex systems adapt to challenges can help organisations to reduce p_i and to add value.⁴

Finally, for risk management to be practised at a more optimal level, we must not lose our focus on where it fits into the business process. Martin and Power note ‘Existing top-down designs for ERM . . . are neither realistic nor pragmatic; they are not grounded in the demand for management action, which is always somehow “outside” the framework’.¹³ This suggests that there may be a loss of focus on the primary purpose and position of risk management, namely, being a positive contributor to the primary process of business decision making.

Despite recent critiques and a steady revelation of heretofore blind spots, modern financial risk management has been a tremendously influential and successful profession. Financial and computational innovation since the mid-1980s has reduced the cost of capital, customised and distributed risk-taking and opened low-cost access to credit and financial products that many individuals and companies could not have realised just a few decades ago. Lost in the focus on fraud and foreclosures in subprime lending is the fact that, of those to whom such ‘risky’ credit was extended, the majority continue to enjoy the benefits that ownership and homestead provide, something they could not have done without the success of financial risk management over the past two decades.

Still, in systems dominated by human decisions, interactions and perceptions, optimal risk management will always be a social science, supplemented by rigorous quantitative analysis. Optimality will remain ever-changing and elusive. The need for continual examination of potential blind spots for the profession will be unending, yet, the pursuit of optimality will make the profession better and more valuable as we progress. Such continued progression, again, is the intent of this special issue.

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 - 12 For more information on complexity science, see the website of the Sante Fe Institute, New Mexico (<http://www.santafe.edu>).
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